Reading literacy and executive function: A hybrid intervention model

by

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A HYBRID INTERVENTION MODEL

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Abstract

The purpose of this project is to identify elements of effective early literacy development, specific to reading, and to associate the student’s literacy achievement with their executive function skills. The literature review examines the underpinnings of early literacy and reading development. It explores the essential component of reading and the various theories of reading. Teacher efficacy, classroom climate and home support are examined as external factors contributing to reading difficulties. Internal factors of executive function skills, such as cognitive flexibility, inhibitory control and working memory are also defined and considered as contributing to reading development. A hybrid intervention model that includes explicit literacy instruction and executive function strategies is proposed to support struggling early readers.

Key Terms: early learning, executive function, intervention for reading, learning, literacy, struggling reader
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CHAPTER 1

To improve student learning is the quest of parents, teachers and schools worldwide. Michael Fullan (2006) notes that public education has a new mission and that is “to get all students to meet high standards of education and to provide them with a lifelong education that does not have the built-in obsolescence of so much old style curriculum but that equips them to be lifelong learners” (p.1). I believe one of the most important ways to prepare our students in becoming lifelong learners and to be successful later in life is to ensure that they are literate. Recent research by Kennedy (2013) emphasized that literacy is something an individual chooses to engage in to construct knowledge, create, communicate, reflect, empathize, critique, and to appreciate. When equipped with literacy and communication skills students are able to interact with the world in a manner that enriches their life and supports them in becoming an engaged and responsible citizen.

In this chapter, I outline my personal experience and interest in literacy learning, the Alberta context for learning in which I am situated, and the rationale for this project. In subsequent chapters, I present a literature review of relevant topics in the area of early literacy and executive functions, and finally outline an intervention model for struggling readers.

Background

Literacy learning is a passion for me, both personally and professionally. Ever since I was a young girl, I have enjoyed books. Looking at them, reading them and sharing them with others. It was only when I starting teaching that I came to appreciate the complexity of learning to read.

**Learning To Read.** I love to pick up a good book and got lost in the pages. For me, reading can be a temporary escape from the hustle and bustle of life. But, when I reflect back on how I learned to read and my early reading experiences, I don’t have a lot of memories - positive or negative. I don’t recall learning phonics, sight words or strategies to support the process of
reading. I can’t remember having a favourite book or even too much about the readers we used in school, other than in French we used the series “Luc et Martine”, which is similar to the English “Dick and Jane” books. I do however recall that in school, teachers would have the students go around the room and read a paragraph out loud from whichever reader or novel we were using. I did not enjoy reading out loud, not because I couldn’t read, but rather I was very shy and was anxious of making a mistake in front of my peers. So, instead of listening to the parts of the story or text my peers were reading, I would count how many of my classmates were ahead of me and try and determine which paragraph would be mine to read. Then, I would quietly pre-read the paragraph, hoping and praying there weren’t any difficult words that I could not pronounce. It seemed to me at the time, that in school we read to learn, not simply for the pleasure of reading. Even when we were engaged in a novel study, we all read the same novel regardless of interest or reading ability, and it was often read a chapter and answer questions or write a book report.

My memories of reading at home are also very vague. Although I am sure there must have been bedtime stories when I was little, I do not recall these experiences with either of my parents. There was a very high expectation that we do well in school, however reading is not something that was modelled in our home. As the oldest in her family, my mom was required to drop out of school after junior high to help take care of her siblings, and she never completed high school. She often spoke about how she loved school as a young girl and wished she had finished. My dad read the paper, which, as a child I thought was a ‘dad thing’ and at times he read documents for work. But neither of my parents were avid readers. To this day, I am the only member of my family that reads for enjoyment. I am not sure where my affinity for reading comes from, but I am grateful for it. I try to pass along my love for reading on to my nieces, nephews and godsons. I often buy them books as gifts, and joke that if we want to go see a movie that is based on a book, that we need to read the book first. This is my personal rule that I have made for myself.
As a teacher, I love to share some of my favourite stories with my students. I have a large collection of picture books and I enjoy reading them to the students. Even my grade six students confessed that they still like listening to stories. I would often use trade books to introduce language elements, such as word choice or voice, or to demonstrate the use of text features. Also, I find picture books are terrific for teaching art. I always started an art lesson with a picture book, no matter what grade I was teaching. As a result of sharing some of my favourite books with my younger students, they would often bring in some of their books from home and ask if we could read it during story time. Or as they began to read, they would become the teacher during story time and read their book to their classmates. Watching students get excited about reading is such a joy to watch, and I hope that I have been even a small part of this excitement.

**Teaching to Read.** University finished, I graduate and finally I had my own grade one classroom. Like all first year teachers, I spent the summer setting up the classroom – sharpening pencils, putting up bulletin boards and arranging desks. I sat down and organized my timetable, sorting out when to teach each of the subject areas and began to read my learner outcomes. Many of the outcomes seemed straightforward: counting to 100 in math, recognizing seasonal changes in science etc., while others were abstract. I needed to teach these precious little children how to read. There is nothing more exciting and frightening, at the same time, than being given the privilege of teaching a child to read. I am still in awe of these little six-year-olds who start the year still solidifying their letter-sound identification, experimenting with rhyme and word families and they finish the year independently reading.

I can’t speak for all university experiences, but I did not take a particular class that taught me ‘how’ to effectively teach reading, and as I mentioned above, I don’t remember how I learned to read. Luckily, I had a supportive administration team that provided the latest professionally
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packaged reading program to teach from and baskets of leveled books for the kids to read. However, despite my best intentions this one size fits all approach did not meet the needs of all my students. Although I was following the teachers’ guide, which was well laid out and told me what to teach, I was not reaching all of my students. During this time, I witnessed children who actively participated in classroom activities and those that sat still for extended periods of time silently observing, along with those who seem to readily learn new concepts and others that struggled compared to their peers. I often questioned what it was that allowed one student to grasp the aspect of reading, while others continually struggled to develop the necessary letter knowledge and phonological awareness skills.

In the school I was teaching at, those students that struggled with learning how to read were referred to participate in our ‘Reading Recovery’ program. In my third year of teaching, I was fortunate to be allowed the professional development opportunity to train as a ‘reading recovery’ teacher. Soon, I was the teacher who was receiving these struggling readers. As a literacy teacher, I was tasked with supporting struggling readers either within a small group or individual sessions.

Through the reading recovery course, I began to learn about the different theories of reading, including the bottom-up phonics method, the top-down whole language method, as well as the interactive and transactional methods of reading instruction. In my opinion, each theory contributes to effective literacy instruction and should be recognized for its strengths as well as its limits to student learning. Additionally, and maybe more importantly, I began to refine my understanding of the reading process and to develop a pedagogical theory to guide my practice in the classroom. I now approach teaching and learning from a social-constructivist perspective where society and culture are seen as major factors influencing literacy development.
The social constructivist model of learning emphasizes the role of social interaction in learning. Lev Vygotsky contributed perhaps one of the foremost influential bodies of work in teaching and learning theory when he examined children’s “zone of proximal development”. Vygotsky (1978) proposes a “zone of proximal development” as the place where children learn in relation to their existing knowledge and competencies, and with regard to those around them who model and scaffold their learning. People in children’s immediate social context play an important role in helping them clarify and extend ideas. Children are active in the learning process, which contrasts sharply with an “empty vessel” theory that postulates that a child’s mind is like a vacuum, waiting to be filled with knowledge. The social-constructivist approach in early childhood literacy views the primary grades as a place for social, emotional, physical and intellectual development (Morrow & Dougherty, 2011).

As a result of the diversity of learners in today’s classroom, I continue to develop and refine my understanding of how children learn. Specifically, my interest in investigating children’s early literacy development has continued to evolve over time. Throughout my seventeen years of teaching, primarily in the early years of kindergarten to grade two, and as the literacy support teacher, I have come to believe that additional factors contribute to student success. Factors such as teacher efficacy, parental involvement, student motivation and behaviour also contribute to the success of the students (Hattie, 2009).

Statement of the Problem

Because a literate society is an undeniable goal of any advanced culture, the topic of literacy has been researched for many years and continues to be an area of focus. Literacy skills are often accurate forecasters of employability and are connected to income (Murnane & Levy, 2004 as cited in Biancarosa & Snow, 2004). The education systems in Canadian provinces, like many countries around the world, have embarked on this shift to knowledge-based economies.
that place greater emphasis on literacy, numeracy and problem-solving skills (OECD, 2010). These skills are now often regarded as essential or foundational skills that individuals need in order to function not only in the workforce, but also with respect to participating and functioning in modern society and in the global economy (Statistics Canada, 2008).

In the interest of developing literate citizens, Canada has participated in a number of national and international assessments that measure literacy proficiency. Research by the Organization for Economic Cooperation and Development (OECD) compiles and analyzes data from international assessments such as Programme for International Student Assessment (PISA). PISA is administered on a triennial basis to assess 15-year old students’ knowledge and skills in one of the following three areas: reading literacy, mathematical literacy and scientific literacy. In 2009, PISA assessed a sample group of 15-year-old students from 34 participating countries in the area of reading literacy (OECD, 2010). Although Canada’s mean score was 524 overall in reading performance, which is above the OECD mean of 493 (OECD, 2010, p.57), the report indicates that many Canadian children have difficulty achieving success in reading literacy (OECD, 2010). A review of OECD’s published results of a secondary assessment Programme for the International Assessment of Adult Competencies (PIAAC) also uncovered that Canada’s 2012 literacy performance was lower than when compared to the 2003 results (TD Economics, 2013). Among the overall decline in Canadian results was the province of Alberta, who reportedly experienced significant drops in their reading performance from 2000 to 2009 (OECD, 2010).

In a 2011 document from Alberta Health and Wellness, Let’s talk about the Early Years, it was reported that, “by school age, more than 25 per cent of children are behind where they should be in their physical, social, language or cognitive development. In other words, almost all children are born with a strong potential to grow, learn and thrive but by school age many,
approximately one in five, have lost ground” (p.4). Similar data was collected and reported through the *Early Child Development Mapping Project Alberta*. Between 2009 and 2013, Alberta School’s collected data of kindergarten aged children using the Early Development Instrument (EDI). The EDI is a tool developed by the Oxford Centre for Child Studies at McMaster University in Ontario that measures the development of kindergarten students in five areas: 1) physical health and well-being, 2) social competence, 3) emotional maturity, 4) language and thinking skills, and 5) communication skills and general knowledge (ECMap, 2014). The EDI tool is used both internationally and by many Canadian provinces, including Alberta.

A summary of the Alberta results indicates “approximately 46 percent of kindergarten-aged children in Alberta are developing appropriately in all five areas of development” (ECMap, 2014). The provincial Early Child Development Mapping (2014) data also highlights communication skills and general knowledge as the biggest challenge across Alberta with nearly a third, 31.4%, of students are experiencing difficulty or great difficulty in these areas. With growing populations of students not meeting expectations on assessments, such as those listed above, it is understandable that there are both political and public concerns surrounding literacy achievement (Alberta Education, 2010; TD Economics, 2013).

The Government of Alberta is responding to the need to develop literate citizens by creating a literacy framework that ensures that the students in Alberta receive the strategic instruction and support they need to develop fully literate readers. The discussion paper *Inspiring Action on Education* (2010) and the document *Inspiring Education* (2010) were prepared by Alberta Education to outline their vision for redesigning curriculum, making literacy (and numeracy) pinnacle to the academic success of every learner. Outcome 2.3 of the Ministerial Order (#001/2013) states, “All students will employ literacy and numeracy to construct and
communicate meaning”. This order is the foundation to the redesign of an inclusive K-12 curriculum in the development of new provincial programs of study. This new curriculum will see literacy being integrated into all subjects, making it the responsibility of all teachers, not uniquely that of the language arts teacher. “Learners with strong literacy and numeracy skills acquire, create, connect and communicate meaning in a wide variety of contexts” (Inspiring Action Discussion Paper, 2010, p. 9).

Literacy is fundamental to student learning and yet teachers work daily with students who are struggling in one or more academic subject areas, such as the above results would indicate. Having taught children of different ages and abilities from kindergarten to grade six, I have often come across children for whom learning within a school context is a complicated process. So much of our ability to learn in a school setting is based on understanding instructions, remembering how to perform a specific task, and paying attention to teachers or peers. Learning at school depends largely upon students’ abilities in a range of cognitive processes such as memory, attention, comprehension, and concentration (Larkin, 2010). Students also use executive functions (EF) to help them succeed in school. Executive function is commonly defined as processes that control, direct, or coordinate other cognitive processes (Baddeley, 1992). Early studies focused on Baddeley and Hitch’s (1974) working memory model, “which has been conceived and defined in three slightly different ways: as short-term memory applied to cognitive tasks, as a multi-component system that holds and manipulates information in short-term memory, and as the use of attention to manage short-term memory” (Cowan, 2008, p.1). More recent research includes a wider conceptualization of executive functions in terms of inhibition (overriding of prepotent or dominant responses), cognitive flexibility or shifting (switching flexibly between tasks or mental sets), and updating (monitoring the addition or
deletion of contents from working memory) (Anderson, 2002; Blair & Razza, 2007; Bull & Scerif, 2001; Harvard University, 2011).

Executive functions, such as inhibition and shifting, planning, and organizing are used to complete various tasks throughout the day (Bull & Scerif, 2001; Blair & Razza, 2007). When students experience delays in the development of one or more executive functions, their understanding of academic material and social interaction may suffer (Anderson, 2002; Baddeley, 1992). In particular, children with executive function deficits may not be able to complete their work, have a hard time grasping concepts, have difficulty attending to instruction, and they may also have difficulty interacting socially with peers. “Over the last decade, a growing number of studies have examined executive functioning and its relation to academic achievement” (Bull & Lee, 2014, p.36). Additional researchers believe that academic achievement, such as reading and comprehension are impacted by the student’s executive functioning skills (Adams & Snowling, 2001; Cartwright, 2012; Foy & Mann, 2012).

**Purpose of the Project**

The purpose of this project is to identify elements of effective literacy instruction, specific to reading, and to associate student’s literacy achievement with their executive function skills. As my teaching experience has been primarily with students in kindergarten to grade two, my focus will be on these emergent and early reader’s, examining the association between a child’s literacy achievement and their executive function skills. My project was guided by the following research questions:

1. What strategies do effective teachers use in helping their students in becoming proficient readers?

2. What is the relationship between executive function skills and early literacy development in primary age students?
3. What intervention strategies can help struggling readers become proficient readers?

This study will examine the student’s literacy achievement by assessing phonological awareness, spelling and reading level. As part of the student’s assessment, I will also observe their classroom behaviour and administer tasks to evaluate their working memory, cognitive flexibility and inhibitory control. Additionally, both the parent and teacher will be asked to complete a survey regarding the child’s behaviour toward learning. It is hoped that the survey information will shed light on the student’s motivation in regards to learning, and their typical behaviours both within and outside of the classroom environment.

My hope is that by understanding the characteristics of struggling readers and identifying areas of executive dysfunction teachers will be in a better position to assist these students with their continued development as capable and lifelong literacy learners.

**Key Terms**

The purpose of this section is to define specific terms and describe the context in which they will be used. The definitions below are taken from a variety of scholarly works.

*Assessment* is the systematic gathering of information about the student’s learning (Reithaug, 2009).

*Development* is the process by which a person changes and grows over time, influenced by both experiences and physiological changes. It has two dimensions: normative (following a prescribed pattern) and dynamic (depending on time and experience) (NCCA, 2007).

*Early learning* applies to programs for children from birth to age eight (CMEC, 2014).

*Executive Function* is a process that control, direct, or coordinate other cognitive processes (Baddeley, 1992).
Intervention for reading is an explicit and systematic instruction delivered in small groups or individually to meet the identified needs of striving readers (Reithaug, 2009).

Learning is a complex, dynamic and interactive process whereby knowledge is created through the transformation of experience (NCCA, 2007).

Literacy is that it is the cognitive skills of reading and writing that are employed within a specific context (Street, 2004). It is the capacity to understand, use and reflect on written texts, in order to achieve one’s goals, develop one’s knowledge and potential, and participate in society (PISA, 2009).

Parent is used to refer to the primary caregiver. This caregiver could be a grandparent, stepparent or guardian other than the father or mother (NCCA, 2007).

Struggling Reader is an individual who has not acquired minimum reading ability despite having average intelligence and despite having received adequate instruction (McCormick, 1994).

Limitations of the Project

There is a vast body of research available in the area of literacy and early learning which suggests that there is an interest and importance in having a better understanding in these areas. Consequently, the learning and ideas shared within this project represent only a fraction of the research available in the area of literacy within academic journals, peer reviewed articles and published books. As a result of the depth and breadth of early literacy development, one of my challenges was to identify themes in this body of research and summarize the topics within those themes.

I encountered a similar obstacle when researching executive functions. There are many published sources in this area that represent many voices in defining what executive function skills are and why they are critical to academic achievement. When being more deliberate in my search for literature, which compared the development of executive functions and achievement
in literacy or reading, I was limited in what was available in the area of kindergarten to grade two early readers. A review of the literature shows that more is known about the links between executive function skills and literacy with students aged eight to twelve or with preschoolers. Additionally, a large amount of the literature in this area is concentrated on students who have been diagnosed with neuropsychiatric disorders such as, autism or attention deficit hyperactivity disorder.

Summary

Chapter 1 provided an overview of the reason for my interest in the topic of identifying executive function skills that contribute to reading achievement. It has also outlined why early literacy development is critical and why all educators, regardless of subject or grade level should continue to develop effective literacy skills in their students. As educators work together to improve student achievement, we need to look at evidence from research literature to guide our teaching practices.

Chapter 2 reviews a selection of literature that underpins what is known regarding early literacy and reading development. It explores the essential component of reading and the various theories of reading. Teacher efficacy, classroom climate and home support are examined as external factors contributing to reading difficulties. Internal factors of executive function skills, such as cognitive flexibility, inhibitory control and working memory are also defined and considered as contributing to reading development.

Chapter 3 reviews the importance of early literacy and executive function and outlines the Response to Intervention framework to support all learners. Through the use of teacher observation and assessment students who are behind their peers in the area of reading can receive support through reading intervention programs. I will explore and critique two intervention programs used in my school district. I pursue to explicate the situation of struggling readers in
today’s classrooms and provide, not only an alternative view of these students, but also strategies that can be implemented to support their continued literacy development
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CHAPTER 2

REVIEW OF RELATED LITERATURE

We want to prepare our children to be successful in life and to grow up to become contributing, happy, productive and successful members of society. Educators and parent alike can contribute to this success by ensuring well-developed literacy skills. Resnick and Resnick (1977) point out that literacy in its earliest form consisted of the ability to sign one’s name. This definition of literacy has grown over the years to include the ability to read in order to gain information. In fact, UNESCO (2005) reported “the most common understanding of literacy is that it is a set of tangible skills – particularly the cognitive skills or reading and writing – that are independent of the context in which they are acquired and the background of the person who acquires them” (p.149). Researchers unanimously agree upon the importance of literacy development but continue to disagree with the best way to acquire literacy skills. Some scholars advocate theories of reading which support a phonetic approach and others maintain the importance of reading for meaning (Alexander & Fox, 2004; Chall, 1995; Gough, 1972; Pearson & Spiro, 1982; Pearson & Stephens, 1994; Rosenblatt, 1988; Stanovich, 2010; Unrau & Alvermann, 2013). Research also illustrates areas of disagreement that exist with respect to how students with reading difficulties should be supported (Alexander & Fox, 2004). As a school administrator and primary school teacher I want to investigate possible external and internal factors that contribute to reasons some children experience success in developing their literacy skills, while others struggle with the basics of reading.

This chapter is organized into two main sections: early literacy and executive functions. The first section provides an interpretation of early literacy, as well as an overview of the essential components of reading instruction and the theoretical reading frameworks. External factors that may contribute as precursors of achievement, such as teacher efficacy, classroom
environment and home support are considered. Next, the second theme of executive function skills are addressed as internal factors in academic development.

**Early Child Development**

There is a long history and interest in early learning and child development. As children develop from infants to teens to adults, they go through a series of stages that are important in determining their physical, social, emotional and intellectual development. It is the early development of cognitive skills, emotional well-being and social competence along with physical and mental health that builds a strong foundation for success well into the adult years (Harvard University, 2007). Child development experts such as Piaget and Vygotsky have learned that from birth children learn from each experience and interaction.

Jean Piaget (1896-1980), a Swiss developmental psychologist and philosopher believed that all children pass through a series of developmental stages before they construct the ability to reason and understand in mature reasonable terms. He claimed that the essential nature of human beings was their ability to construct knowledge through adaptation to the environment (NCCA, 2007). The stages of intellectual development by Piaget are situated in the developments of brain growth. Piaget defined knowledge as the ability to modify, transform and ‘operate on’ an object or idea. Learning then occurs as a result of experience, both physical and logical, with the objects themselves and how they are acted upon. This theory emphasized how children’s thinking and reasoning change, qualitatively over time, allowing the learner to scaffold their understanding by building upon the complexities of previous knowledge (Child Development Institute, online, 2014; NCCA, 2007; Swim, T.J., 2007). Arguably, Piaget’s key contribution to child development is his principle belief that learning is a continuum of stages and processes of meaning making wherein children actively contribute to their own cognitive development by constructing their own understanding of the world (Child Development Institute, online, 2014).
Lev Vygotsky (1896-1934) also stressed the child’s active role in their development. Vygotsky was a Soviet psychologist who suggested that a child’s learning begins far before school. He postulated that children construct their early knowledge based on the interactions and observations in their environment. Vygotsky (1978) believed that, “learning and development are interrelated from a child’s very first day of life” (p.84). Vygotsky (1978) proposed that every child has a zone of actual development and a zone of proximal development. The zone of actual development is defined by what a child can accomplish on their own. Whereas, the zone of proximal development occurs when children are faced with a task they cannot perform on their own but need to help of a teacher, parent or capable peer. His theory emphasized the social and cultural influences on learning with the difference between what a learner can do without help and what he or she can do with help (Vygotsky, 1978). He also believed that children’s development arises from the child’s attempt to deal with everyday problems. Furthermore, in addressing these problems, the child develops strategies in interaction with others (NCCA, 2007; Swim, T.J., 2007). The consideration of a child’s zone of proximal development is important in teacher planning because it ensures that students’ learning abilities are planned for and instructional goals are differentiated based on the individual needs.

The role of biology is not ignored by Vygotsky, it is however perceived as playing less of a direct role in their cognitive development. Vygotsky argues that educators need to consider external factors that can affect a students’ learning. Without the consideration of a students’ background, their learning style and providing an interactive classroom environment, an in-depth learning and understanding is unlikely to occur (Vygotsky, 1978). Piaget would argue that if one were to examine learning from the perspective of constructivism, it would be suggested that reality is constructed and/or interpreted in terms of one’s own perceptions. A child’s inherited
traits influence the ways in which an individual approached the environment and thus impacts the types of experiences he or she has (Stokes, 2003; Swim, T.J., 2007).

**Early Literacy Development**

At first glance, ‘literacy’ would seem to be a term that everyone understands. Yet, literacy as a concept is both complex and dynamic, continuing to be interpreted and defined in multiple ways. Since the mid-twentieth century, scholars have devoted considerable attention to defining literacy (UNESCO, 2006). A shared understanding of literacy is that it is the cognitive skills of reading and writing that are employed within a specific context (Street, 2004). In a report released by Ontario Education (2004), literacy is defined as “the ability to use language and images in rich and varied forms to read, write, speak, view, represent and think critically about ideas” (p.5). A review of the literature concerning effective literacy instruction reveals that the terms reading and literacy are frequently used interchangeably. In order to adequately assess whether or not students are developing literacy skills, a clear definition is required. For the purpose of this project, I will employ the PISA definition of reading literacy – “understanding, using and reflecting on written texts, in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society” (OECD, 2008, p.108).

Within the school setting, the principal route to becoming literate is through quality primary schools in which rich literacy learning takes place. “In the early school years, literacy instruction introduces children to the fundamentals of reading and writing and nurtures an awareness of language and motivation to learn” (Ontario Education, 2004, p.5). It is now well established that children’s phonological awareness, letter-sound knowledge and broader oral language abilities play and important role in their reading development. The importance of phonemic awareness and the incorporation of phonics into beginning reading instruction have been proved effective (Adams, 1993; Bond & Dykstra, 1997). Being literate gives children the
capacity to share information, to interact with others, and to create and construct meaning in their daily lives (Alberta Education, 2010).

Some level of literacy development occurs naturally by children being brought up in an environment where they interact with language, but an increased level of literacy development requires direct, explicit teaching (NCCA, 2007). For example, shared book reading between a parent and child offers children opportunities to ask questions and learn about books. Explicit instructional practices might include demonstration, guided practice, and independent practice wherein the teacher clearly states the goal of the lesson and models how a skilled reader uses them. For example, in demonstrating how to blend sounds to pronounce an unfamiliar word, explicit instruction might sound like this: “I’ll show you how to sound out this word. Listen carefully. I’ll say the sound for each letter without stopping between the sounds.” Explicit instruction ensures students’ attention is drawn to important features of an example or demonstration (Learning Point Associates, 2004). Joan Almon (2013) makes reference to a report by The Casey Foundation, in which the goal that children should be fluent readers by the end of third grade is highlighted. She states, “reading proficiently by the end of third grade can be a make-or-break experience for children…After that they are reading to learn, and it is hard to master subjects beginning in fourth grade if one cannot read at least at age-appropriate levels” (p.22). The importance of developing solid reading skills in the early grades is echoed by Biancarosa and Snow (2004) who highlight the importance of getting third graders to read at grade level and to become fluent readers.

Three (and sometimes four) main stages have been identifies for developing strong reading skills: emergent, early, (transitional) and fluent readers (Bank Street College, online, 2014; Fountas and Pinnell, 2011; Willis, 2010). In kindergarten to first grade, children are usually emergent readers. At this stage they are aware that print conveys a message, they
recognize letter names and letter sound associations and may begin to use a pattern and repetition of text along with some familiar words to read. Next, in first and second grades, students enter into the stage of early reader. Here they are building a bank of high-frequency words, and they start using phonetic cues to decode, and read familiar texts with some fluency while beginning to attend to punctuation. Then, in second and third grade, students are transitioning through to becoming fluent readers. It is important to note that some students may stay in a stage of transition between early and fluent reader for a longer period of time than their peers. During this phase, students are reading longer and more complex texts with expression and fluency (Bank Street College, online, 2014; Fountas and Pinnell, 2011). They also recognize the importance of monitoring their reading to ensure comprehension. The components of reading, (phonological awareness, phonics, vocabulary, fluency, and comprehension) will be explored further in the next section, followed by reading theories about how these components interact to develop proficient readers.

**Essential Component of Reading Literacy**

Effective literacy instructions develops students who are able to decode words, read fluently, and comprehend what has been read (Adams, 1990; Anderson et al., 1985; Chall, 1967). A summary of research conducted by the National Institute of Child Health and Human Development (NICHD, 2000) states that effective reading instruction needs to address five key areas: 1) phonological / phonemic awareness, 2) phonics, 3) fluency, 4) vocabulary, and 5) comprehension.

**Phonological Awareness / Phonemic Awareness.** Phonological awareness is a broad term that includes phonemic awareness. It is the ability to identify sounds in language and understand how sounds can be broken down and manipulated. There are different parts of phonological awareness, including: rhyme awareness, understanding that sentences are made up of words, words are then broken down into syllables (eg. rimes and onsets), and finally syllables
are reduced to sounds (phonemes) (Reithaug, 2002). Breaking down syllables into sounds is referred to as phonemic awareness.

Phonemic awareness understands that separate sounds are blended together to make up spoken words. It involves the ability to hear, identify, and manipulate the individual phonemes. Despite there being 26 letters in the alphabet, there are approximately 44 phonemes in the English language. The 44 phonemes can be divided into three distinct categories: consonants, vowels and digraphs (two-letter blends) (see Appendix C - Lessons). Because of the alphabetic structure of the English language, phonemic awareness is fundamental to early literacy development (National Reading Panel, 2000; Snow et al., 1998).

Researchers have proposed that there is a developmental progression in phonological / phonemic awareness. A student’s awareness of syllables, onsets, rimes, and rhymes and their ability to complete simple phonological awareness tasks paves the way for their early development of reading and spelling. Moreover, their awareness of phonemes and their ability to complete more advanced phonological awareness tasks follows their later development. Early mastery of phonemic awareness and letter knowledge (phonics) are the best indicators to measure future reading success (Adams et al., 1998; Cunningham, 1989; National Reading Panel, 2000; Stanovich, 2000). So much of a child’s phonological awareness is interconnected to their skills in phonics.

**Phonics.** Phonics is central to early literacy development. “We define phonics as a set of rules that specify the relationship between letters in the spelling of words and the sounds of spoken language. For the English language, these relationships are predictable, but not completely consistent. However, they are consistent enough to be very useful to young children in helping them learn to decode unfamiliar words” (Foorman et al., 1998 cited in Learning Point Associates, 2004, p.12). In phonics instruction children learn about three key concepts: a)
alphabetic principal, b) letter sequences and patterns in words, and c) the spelling and meaning relationships among words (Henderson & Templeton, 1986). The three components of phonics development are very closely related and the skills often build on one another.

The alphabetic principle refers to letter identification, along with the letter-sound (grapheme-phoneme) relationship between the 26 letters of the alphabet and the 44 phonemes discussed earlier in the phonological awareness section. Using their knowledge of letters and sounds, children soon learn that groups of letters make sounds also and that sometimes the same grouping of letters can have more than one sound. These letter sequences and patterns in words are what students use to read and then later for spelling. Once a child can recognize familiar letter patterns, they can use this knowledge when decoding familiar words or when attempting to spell new words independently. For example, they learn to analyze words by removing the rimes from familiar words, and add different rimes to make new words that they can decode and read (Clay, 1993). The meaning layer involves student's using their knowledge of word patterns (phonograms), and parts of words (morphology) can influence the meaning and pronunciation of words.

Many researchers support the idea of explicit and systematic phonics instruction (Adams, 1990; Chall, 1967; Learning Point Associates, 2004; NICHD, 2000; Reithaug, 2009). “Although differences exist, the hallmark of systematic phonics programs is that they delineate a planned, sequential set of phonic elements, and they teach these elements explicitly and systematically” (NICHD, 2000). Although phonics instruction is a necessary component of reading literacy, it is not in itself a reading program. A comprehensive reading program necessitates the focus on vocabulary development, reading comprehension, and reading fluency.

**Fluency.** Having the ability to decode automatically and without difficulty are characteristics of a good reader. This ability to read a text with accuracy, speed, and proper expression is termed fluency. Fluent readers can decode words, recognize them, and comprehend
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them simultaneously while non-fluent readers can only accomplish one of these tasks at a time (National Reading Panel, 2000). Beginning readers rely on their knowledge of phonics and phonemic awareness skills to decode accurately. This process can be slow, however once the reader becomes proficient at decoding with accuracy they increase the rate of reading. The correlation between the accuracy of reading words in a text and the speed of reading increases considerably as students learn to read familiar words by sight (Learning Point Associates, 2004; Reithaug, 2002).

Sight word development is a process of reading isolated words quickly and repeatedly out of context so they read familiar words by sight in a fast and accurate manner. Teachers build sight word vocabulary by identifying words that frequently appear in texts, many high-frequency word list exist for use in the classroom (e.g., Dolch, Frye, Fountas & Pinnell, Mary Clay, and Ohio). During early literacy instruction, children learn to read familiar words by sight and unfamiliar words by decoding, comparing to other familiar words, and using context to make word predictions as they read (Clay, 1993). For example, students are encouraged to look at the pictures and the first letters of unfamiliar words and consider meaningful words that match both the images and first letters. This task of word prediction is only successful when the student has a fully developed, mature vocabulary.

**Vocabulary.** “The term vocabulary refers to words we need to know to communicate with others” (Learning Point Associates, 2004, p.22). Vocabulary development can be categorized into oral vocabulary and written vocabulary. Oral vocabulary refers to not only the words we use when speaking, but also the words we understand when listening to others speak and speak. Similarly, written vocabulary signifies the words we use when writing, as well as the words we can decode and recognize when reading. In order for new words to become a part of a
student’s vocabulary, they need to see, hear, read, and write the words repeatedly in different contexts.

A child’s vocabulary development plays a significant role in word recognition, fluency, and comprehension. Early readers rely on their oral vocabulary to help them recognize words in print. They make connections between their letter-sound knowledge along with knowing the pronunciation of familiar words to sound out unfamiliar words. While sounding out the word, they also need to check if the word makes sense before the continue reading. Students with a stronger vocabulary will likely be more fluent readers as this process of decoding, checking for known words and checking for meaning becomes automatic. However, students will a small bank of sight words, and vocabulary will frequently hesitate when encountering new words, which will affect their fluency and influence their comprehension of the text. Studies have shown a “very clear and positive association between the extent of a reader’s vocabulary and her or his comprehension skills” (Pressley, 2002, p. 267).

**Comprehension.** Reading comprehension is the ultimate goal of reading. It is a complex process in which the reader constructs meaning that is reasonable through their interaction with text. By reading the content of a text, students are able to access their background knowledge and create mental images to aid in their comprehension. Comprehension of text also relies heavily on the use of the student’s conceptual knowledge and their understanding of word meanings or vocabulary. What's more, reading comprehension involves a student’s application of reading comprehension strategies (Pearson & Duke, 2002).

During early literacy instruction, children are taught explicit comprehension strategies to monitor their reading comprehension. A good reader can move beyond simple recall of what was read, and is able to synthesize, analyze and evaluate the information. When children apply reading comprehension strategies, such as identifying story structure elements and drawing
inferences, they engage in regulation processing to develop, maintain, and/or increase their understanding of the texts (Pearson & Duke, 2002). When children monitor their reading comprehension, they engage in evaluation and regulation processing to determine whether they understand the texts and to activate reading comprehension strategies to develop, maintain, and/or increase their understanding (Snow et al., 1998). Young students enhance their development of evaluation and regulation processing when they read and/or reread texts and reread texts that they have written (Clay, 1993). For example, they learn to reread words, phrases, and/or sentences in texts to construct, confirm, and/or refute meaning. They also learn to search for and use semantic cues to self-correct oral reading attempts that do not make sense.

It would appear that the essential literacy components have been identified and agreed upon by the various researchers, however, the amount of time or emphasis in the different areas depend on the teachers’ theory of reading. Early literacy learning takes place in many different ways depending on the teachers’ philosophical beliefs and theoretical foundations in reading. Educators in the early childhood classroom must consider past research when choosing instructional strategies to implement in their classroom. They also have to think about the background of the children in their classroom, so the children are able to find their greatest potential in learning each objective and encouraged to continue a life full of learning (Raths, 2002). It is important to note that there is some disagreement concerning various reading theories, and which is the best method to use with beginning readers. In this next section, I will unpack the following theories of reading: bottom-up, top-down, interactive and transactional.

**Reading Theories**

Theories of reading have undergone significant change over time. Some theories dominated reading practice for a few years, while others have lasted decades. The various reading theories have offered educators choice of methods and techniques for teaching reading.
An understanding of the four prominent reading theories provides a historical understanding of reading research and practice, along with a practical foundation for teachers as they strive to provide good reading instruction.

**Bottom-Up Theory of Reading.** The traditional bottom-up approach to reading was popularized in the 1950’s by behavioural psychologists (e.g., Skinner) who espoused a theory of learning based on conditioned learning. This model contends that scientific study can reduce learning to read to a set of isolated components (Alexander & Fox, 2004). It views information flow in a series of independent stages that transform the input and pass it on to the next stage without any feedback (Stanovich, 1980). Learning to read occurs by translating writing into letters, which are then translated into speech sounds, which are then pieced together as single words, then phrases and finally sentences (Gough, 1972; Pearson & Stephens, 1994). According to this bottom-up theory of reading, higher cognitive processes such as comprehension skills are not involved in learning to read (Unrau & Alvermann, 2013), instruction is simply a rote exercise of stimulus and response learning (Pearson & Stephens, 1994).

Consequently, systematic, prescribed phonics based instruction became the logical form of reading instruction (Chall, 1995). In phonics, children are taught how to decode words by learning the sounds of the letters and then blending the sounds together to form words. Rules of decoding such as using diagraphs, blends, and rules of spelling are also taught to enable the reader to arrive at the author’s written message (Gough, 1972).

Even though all educators would agree that knowledge of letter-sound relationships and lexical or word knowledge are necessary when learning to read, this model of sounding out words is insufficient on its own. There are some shortcomings to an approach that focuses heavily on phonics, sight vocabulary and structural analysis as a means for effective reading. For example, bottom-up theory does not account for individual differences in ability, or social and
cultural differences. Phonic and structural analysis lessons are often taught the same way with the same materials and content for all children, whether they are meaningful to them or not. As it pertains to struggling readers, bottom-up reading instruction remediation is based on identifying sources of errors using quantitative diagnostics (Alexander & Fox, 2004). In contrast to the behaviourist, bottom-up concept of reading through isolated components; researchers became interested in understanding the thinking behind the behaviour of reading (Alexander, 2006; Alexander & Fox, 2004; Stanovich, 2010).

**Top-Down Theory of Reading.** In comparison to the bottom-up theory of reading, cognitive theorists turned their focus to theories of knowledge and understanding the thinking beyond the behaviour of reading (e.g., Goodman, 1976; Pearson & Johnson, 1978; Smith, 1978). The top-down theory of reading focuses on how people store, organize, and accessed knowledge, with particular attention to prior knowledge (Alexander, 2006; Alexander & Fox, 2004) suggesting that children commence their reading by trying to make meaning and using their prior knowledge to understand the text at the beginning, rather than at the end of the reading process. Learning to read is viewed as an active, purposeful activity with less emphasis on decoding and word recognition. More emphasis is placed on pre-reading activities to develop the readers’ knowledge of the topic dependent on prior knowledge and expectations of the reader (Alexander & Fox, 2004; Stanovich 2010).

The acknowledgement of the readers’ prior knowledge as an influential factor in reading was critical because it communicated that students come to reading from a variety of social, economical, and cultural backgrounds, and all of these aspect influence their ability to read and comprehend. The interest in understanding what the reader brings to the reading equation was further explored in schema theory during which the reader’s prior knowledge originates from mental patterns, or pictures that are recalled in association with words and sentences (Pearson &
Spiro, 1982). According to Pearson and Spiro (1982) students who do not possess the prior knowledge associated with a text will be at a reading disadvantage unless the teacher provides such knowledge before reading.

In addition, they believe that even if a reader does have the required background knowledge, they may still have difficulty understanding a text if they make errors organizing, storing, and accessing the knowledge. Alexander and Fox (2004) trust that in uncovering these retrieval errors and modifying the reader’s knowledge, intervention is possible. It would seem that the top-down approach serves fluent readers but not those who struggle to decode individual words (Alexander & Fox, 2004). There are however, some cognitive theorists who believed that learning to read involves both bottom-up and top-down processes.

**Interactive Theory of Reading.** In the 1970’s interactive theory was developed by cognitive theorists who believed the reading process to be an interaction between the text and the reader. Unlike the non-interactive views of bottom-up and top-down theories where information moves solely in one direction, interactive reading theory adopts a two-way flow on information between the reader and the text to create meaning (Rumelhart, 1982; Stanovich, 1980). In this process, students are valued for what they bring to the understanding of a text, understanding that each individual possesses different abilities and makes connections in different ways (Stanovich, 1980).

In this model, a reader can use higher-level processes, such as inferring, to assist lower level processes, such as decoding, to figure out unknown words. Similarly, when a reader encounters difficulty decoding a word, they can skip the word and read ahead or re-read what came before to help uncover the difficult word through contextual clues. Instruction emphasizes teaching students how to be efficient and effective readers through the use of strategies including summarizing, mapping, self-questioning and predicting (Alexander & Fox, 2008). Another
feature of this theory of reading is that readers access cueing systems to process simultaneous graphophonemic, syntactic, semantic, and pragmatic information during the two-way interaction between reader and text (Rumelhart, 1982). This model encourages teachers to view the reading process as an interaction between several cueing systems rather than a sequence of features that happen in a sequential order. The underlying assumption is that “all these knowledge sources apply simultaneously and that our perceptions are the product of the simultaneous interactions among them” (Rumelhart, 1994, p.877).

The interactive model of reading may be limiting in that it would rely heavily on the student’s ability to employ high frequency vocabulary, word identification skills and phonics and structural analysis that may not yet be fully developed. Louise Rosenblatt (1978) criticized the interactive theory of reading as she felt that this model neglected the aesthetic of reading, focusing instead on information getting or fact-finding. In its place, she favoured the transactional theory of reading.

**Transactional Theory of Reading.** Similar to the interactive theory, the transactional theory contends that successful readers are ‘active readers’ who read a variety of texts for different purposes. However, Rosenblatt’s (1978) socio-cultural transactional theory emphasized that meaning is created in the transaction between the reader and the text, rather than solely within the text. This theory relies upon prior knowledge, setting and higher level cognitive processing (Alvermann, Ruddell, & Unrau, 2013). The relationship between the reader and the text is a back-and-forth process wherein the reader internalizes and draws upon social context or personal experiences as they “transact” with the text (Rosenblatt, 1988). The beliefs underlying Rosenblatt’s transactional theory of reading reflect students’ needs for social interaction, choice of text, and a variety of opportunities for engagement, as well as the use of coaching, scaffolding and modeling during instruction (Allington, 2007; Pressley, 2000).
An essential feature of this reading theory is a reader’s stance. Rosenblatt (1988) explains that a reader can adapt either an efferent or aesthetic stance. A reader takes an efferent stance when he primarily reads to gain information to be acted upon, such as reading directions or instructions. Much of the reading students do in the different subject areas are for the purpose of learning new information and answering questions, therefore assuming an efferent stance. The reader takes an aesthetic stance when the purpose of reading is experiencing the ‘feeling’ the author created, such as in a story or poem (Alvermann et al., 2013). Aesthetic stance is concerned with what happens to the reader, as they are reading; the feelings, ideas, sounds, and attitudes they experience. Often readers appreciate the sounds and rhythms of the words taking pleasure in the emotional images, ideas and scenes as they unfold. It is important to note that the stances exist on a continuum from efferent to aesthetic and readers can take both stances, as they are not mutually exclusive (Alvermann et al., 2013; Rosenblatt, 1988). Each of the reading theories has a place within what we now know about what good readers do and what makes for effective literacy instruction.

Effective literacy instruction develops individuals who are able to recognize and decode words, read fluently, and comprehend what has been read (Adams, 1990; Anderson et al., 1985; Chall, 1967) A proficient reader is capable of reflecting on what has been read and create meaning (Allington, 2011; Pressley, 2002). Often this is accomplished by integrating past experiences or previously learned information with new knowledge gained through reading. The various reading strategies should be considered and used throughout each day in a way that is purposeful for the development of each student. Research literature on effective literacy instruction reveals that there is not one best method for teaching reading (Bond & Dystra, 1997; Chall 1967; Snow et al. 1998). Learning to read is a complex process with many factors affecting student achievement.
Precursors of Student Achievement

Each student is ultimately in control of his or her own learning. However, there are both external and internal factors that have been identified that may have an influence on a student’s motivation and achievement. External factors such as a teacher’s interactions with their students and classroom climate contribute to quality teaching and student achievement, as does parental support (Hattie, 2009). Other contributing factors to a child’s success and development are shaped by what they are born with (genes) and their experiences (Alberta Health services, n.d.). Executive function skills are an example of an internal factor that can affect academic achievement. In this section, I will briefly summarize the external factors of effective teachers, classroom climate and home support. Subsequently, I will focus on executive function skills and the relationship they play on early literacy learning.

Effective Teachers. It is critical to create early childhood and elementary classrooms full of effective teaching and learning activities. Teacher quality is one of the key factors that influence student achievement (Hattie, 2009), and teacher characteristics have a much larger effect on student achievement than other factors such as class size or class composition (Hattie, 2009). In order to be effective, teachers must possess, along with the content knowledge required to teach the curriculum, the same language proficiencies they seek to develop in their students and the procedural and pedagogical capabilities required to teach and to support the development of language and literacy skills (CMEC, 2013) “While the effects of quality teaching are strong and beneficial, the effects of poor teacher quality tend to persist for years, and there is little evidence of compensatory effects of more effective teachers in subsequent years” (CMEC, 2013, p.12).

A supplemental variable to effective teaching according to Hattie (2009), which should be used as a teaching strategy, is offering feedback. Black and Wiliam (1998) explain that
feedback should be about the quality of the students work and not about the student. They believe that by praising the child over the task instils a false sense of being liked or not liked by the teacher. Consequently, when a teacher offers specific advice on how to make improvements to a task, the student can take charge of their success and learn from the task. Children need to receive regular feedback that encourages their development as it lets them realize the areas where they excel and those where they need to improve. “Overall, feedback gives children an understanding of their successes and struggles” (Tresnak, 2012, p.7).

Effective literacy teachers provide focused, timely, and relevant instruction that motivates and engages all learners. They select instructional approaches and learning resources based on their knowledge of the strengths and needs of each learner, as well as their knowledge of required expectations (York Region District School Board, 2007). The literature highlights the significance of establishing clear teaching objectives as an important element of effective teaching (Marzano, Pickering, & Pollock, 2001). Established objectives guide the learning to be undertaken. When teachers clearly articulate the goals of the lesson, students know what they are expected to achieve, are motivated to achieve those goals, and learn how to set goals for themselves (Marzano et al., 2001). To this end, teachers must communicate instructional goals that are challenging, and that motivate learners to align their efforts with the demands of the goal and prompt them to invest effort in the learning task. It is often as a result of clear communication and maintaining high expectations that effective teachers create safe and caring classroom climates.

Classroom Climate. Learning is at the center of what educators do daily. When educators strive to create a positive classroom culture where student learning can flourish, that goal can be better achieved. “Children’s development depends on warm, nurturing, caring and consistent experiences” (PEI Early Learning Framework, 2012). When “children experience
healthy, inclusive and safe settings that enhance their learning and well-being. Children see themselves reflected in flexible environments that stimulate communication, invite questions, encourage investigation and promote exploration” (Early Learning Program Guide, Saskatchewan, 2008). Teachers manage the classroom by identifying and implementing strategies to achieve a variety of instructional and social goals.

Teaching is a creative process of managing environments, activities, and situations so students can master the academic and social content of schooling (Green, 1983 as cited in CMEC 2013, p.28). Specifically, teachers determine appropriate levels of participation (class, group, and individual); signal the rules of participation and interactions; and communicate their expectations regarding when and how students should talk and how they should interpret the meaning and goals of classroom conversation (CMEC, 2013). To manage classroom interactions and activities, teachers use a number of instructional strategies such as facilitating, sharing ownership, and scaffolding (Holbein & Harkins, 2010). “The classroom disciplinary climate can either foster or impede positive outcomes of learning activities. Thus, teachers must establish a classroom disciplinary climate in which teaching and learning are unimpeded by disruptive behavior” (CMEC, 2013, p.28).

According to research conducted by Harvard University (2007), “the essence of quality in early childhood services is embodied in the expertise and skills of the staff and in their capacity to build positive relationships with young children” (p.4). Adele Diamond (2010) reminds us that, “more learning occurs in a joyous classroom, where children feel safe, secure, and accepted, and where they feel the teacher genuinely cares” (p.784). Hattie (2009) and Tresnak (2012), also maintain that the teacher-student relationship should be considered when creating an effective learning environment for the children. Positive interactions between teachers and students have both direct and indirect effects on academic performance by, for example, influencing student
engagement and interest in learning. Fostering positive interactions with students requires excellent communication skills and competent use of language on the part of teachers. (Birch & Ladd, 1998).

The term “literate environment” (UNESCO, 2006) has been used in reference to early child development to describe how the surroundings of young children impact the literacy skills, such as language acquisition, school readiness and reading skills. In this literature, the literate environment refers to both the classroom environment and the home environment where initial language learning begins.

**Parental Involvement and Home Support.** The primary role of the parent is to provide encouragement, support and access to activities that enable their child to become proficient at key developmental tasks. A parent is their child’s first teacher and should remain their best teacher throughout life. Smith, Cowie and Blades (2005), assert that the adult [parent] has a responsibility to provide rich environments where children are able to “explore, touch, manipulate and experiment with different material” (p.413) and where children can ask questions, make hypothesis and form new concepts (NCCA, 2007). Functioning as a coach, the parent exposes a child to age appropriate experiences that allows the child to explore on their own and learn from interacting with their environment.

An article by Strickland (2004) has demonstrated a link between children’s early literacy development and parental support. Early literacy support can involve an interaction or activity that takes place both formally, such as ongoing routine reading before bed, or informally in a spontaneous manner such as playing ‘I spy’ or reading road signs. Supportive parents that model literacy through engaging with it themselves both for practical considerations and for pleasure deliver an important message that literacy is valued (Weigel & Martin, 2005). A study by Weigel
and Martin (2005) suggest that children who grow up valuing the artifacts, skills, and space of literacy are more likely to engage in reading, writing, and communicating outside of school.

According to the recent Progress in International Reading Literacy Study (PIRLS) reported by UNESCO (2006), “exposure to home-based literacy activities (i.e. access to and use of reading materials, literacy-related play, television programs emphasizing reading, reference books and information and computer technologies) was positively related to Grade 4 reading achievement” (p. 208). In the same report, UNESCO (2006) referenced the works of Willms and Somers (2001) who found that the two most important predictors of language and mathematics achievement were parents’ education and the presence of ten or more books in the home. Additional studies of educational achievement in developed countries have shown that students from homes with a greater quantity of literacy resources including books, magazines and computers attain higher achievements in reading and other subjects than those from homes with fewer literacy resources (Elley, 1992). In short, there is considerable evidence that home environments with significant literacy resources have a positive effect on literacy acquisition.

All children come to school with individual competencies and dispositions as a result of experiences that have occurred in the home. We are all born ready to learn about the world around us, but how we do that depends on our environment and experiences early in life. Our brain functions and experiences combine to develop not only our cognitive abilities rather they develop the whole child, including executive functioning skills. Definitions of executive functions have changed over time but it is commonly believed that executive function is a psychological construct that can be best described as a number of separate yet interrelated control processes that are activated during novel activities in which new solutions are needed or are activated when initial learning takes place (Anderson, 2002).
Executive Function

In any classroom you will find some students quietly working while others are being disruptive or daydreaming, fidgeting, and doodling. What keeps on-task students focused despite all those distractions, yet able to switch gears if needed? A learned ability called Executive Function.

Definitions of executive function are varied, but a general consensus is that this construct is made up of a number of cognitive processes used towards achieving a goal (Baddeley, 1992; Garon, Bryson & Smith, 2008). Executive function is an “umbrella term” (Anderson, 2002, p.71) made up of a number of cognitive processes that are essential for planning and problem solving. Executive function incorporates a collection of inter-related skills and processes that help us to focus on multiple threads of information at the same time, monitor errors, make decisions, revise plans as necessary and resist the urge to make impulsive decisions (Anderson, 2010; Harvard University, 2011). The Center on the Developing Child at Harvard University (2011) compares the development of executive function to that of the ‘brains air traffic control system’. Just as air traffic control systems manages the movement of many planes in the air and at an airport avoiding any collisions, executive function equips us with the ability to remember, focus, plan and respond appropriately to diverse circumstances.

Early studies focused on Baddeley and Hitch’s (1974) working memory model of executive functions. More recent research focuses on a wider conceptualization of EF in terms of inhibition (overriding of prepotent or dominant responses), shifting (switching flexibly between tasks or mental sets), and updating (monitoring and the addition or deletion of contents from working memory) (eg. Blair, 2003; Epsy & Bull, 2005; Miyake et al., 2000; Zelazo, 2006). “These early capabilities provide the foundation for astonishing growth in concepts, causation, memory and even problem solving in the early years” (Thompson, 2001, p.24). As essential as
Executive function skills are, we are not born with all of the intellectual equipment that enable us to engage with the world. We are however, born with the potential to develop our working memory, control impulse, sustain attention, and to inhibit responses to irrelevant stimuli (Harvard University, 2011; Thompson, 2001) “depending on our experiences during infancy, throughout childhood, and into adolescence” (Harvard University, 2011, p.1). Research evidence suggests that the relationship among executive function skills change with age as our brains develop and that acquiring the foundational building blocks of these skills is one of the most important and challenging tasks of the early childhood years (Harvard University, 2011).

Research of children’s executive function has often taken an abridged approach from research with adults. Many of the tasks used in the study of children’s executive function were originally designed for use with adults (Blair, Zelazo & Greenberg, 2005). The tasks have been simplified from the adult version in order to make them more manageable for children; however, the same basic factors seen in adult research have remained intact. Recent studies have advanced our knowledge about early executive function as a critical factor of child development and helped recognize the role executive function plays in a child’s cognitive, behaviourial, and social-emotional development (Anderson, 2010; Blair, 2006; Bull, Epsy & Wiebe, 2008; Bull & Scerif, 2001; St. Clair-Thompson & Gathercole, 2006). “Executive processes develop throughout childhood and adolescence, and play an important role in a child’s cognitive functioning, behaviour, emotional control, and social interaction” (Anderson, 2010, p.11). More recently, there has been an increase in focus on understanding the structure, organization, and development of executive function in preschoolers, in part due to the substantial evidence that executive function relates to achievement in school aged children (eg. Blair & Razza, 2007; Blair & Diamond, 2008; Garon et al., 2008).
Over the last decade, a growing number of studies have examined executive functioning and its relation to academic achievement. Professor Clark of Mount Royal Child and Youth studies says, “It’s [executive function] foundational to learning. It’s not the content, but the processes that allow us to learn” (Alberta Health Services, n.d., p. 32). In Education, executive functions play an important role in the learning process by which learners plan and then strategically guide their behaviour toward achieving those learning goals (Meltzer & Krishman, 2007). For example, cognitive flexibility requires the capacity to switch gears and adjust to changing demands, priorities or perspectives. Inhibition control may suppress inappropriate strategies, allowing us to ignore distractions or impulses and to pause and think before acting.

While working memory works in concert with the previous two functions, in the ability to hold and manipulate information in the mind and use it (Bull & Lee, 2014; Harvard University, 2011). These executive function skills are used for difficult tasks that evoke active monitoring, instead of soliciting automated responses (Hughes & Graham, 2002), which may help a child adapt to the classroom, get along with others, and follow directions.

One of the challenges for understanding executive function in children is that these skills typically develop rapidly through early childhood, with the suggestion that progression is not necessarily linear, but is rather more fluid (Blair & Razza, 2007; St. Clair-Thompson & Gathercole, 2006). It is also suggested that the executive components of inhibition, working memory, and cognitive flexibility or shifting can be clearly delineated in preschool-aged children as three separate factors under the construct of executive functions (Espy, 2004; Friedman & Miyake, 2004; Miyake et al., 2000; Zelazo et al., 2003). Conceptually, these skills enable children to organize their thinking and behavior with increasing flexibility, decrease their reactive responding to contextual cues and incidents, and engage in self-regulated and rule-governed behavior (Barkley, 2001; Blair & Diamond, 2008). Developmental researchers have
postulated that executive function skills, particularly working memory and attentional control, facilitate school readiness and early learning by supporting behavioral self-regulatory capacities and social competence (Hughes & Ensor, 2007) and by fostering children’s capacities to engage more effectively with teachers and peers in classroom learning activities (Gathercole et al., 2008). For the purpose of this research study, the development of cognitive flexibility/shifting, inhibitory control and working memory will be explored in more detail.

**Cognitive Flexibility / Shifting.** One of the characteristics of human cognition is cognitive flexibility. Cognitive flexibility, also known as task switching or shifting, refers to the ability to flexibly adapt thoughts, behaviours or actions as demanded by the situation (Bull & Lee 2014). It is the ability to rapidly change from one response to another using alternative strategies according to changing task requirements, divide attention and process multiple sources of information concurrently, while learning from mistakes along the way (Anderson, 2010). Similarly, shifting, as described by Baddeley (1986), is the ability to shift attention or to shift between strategies or response sets. Shifting can be characterized by the disengagement of an irrelevant task set or strategy and the subsequent activation of a more appropriate one. Research in this area suggests that people are capable of flexibly adapting their thoughts and behaviours according to changing environmental demands or task goals.

The developmental course of cognitive flexibility or shifting has been studied extensively in adults and more recently in young children. (eg. Espy & Wiebe, 2008; Zelazo, 2006). Cognitive flexibility in children, like in adults, is affected by the set size of the tasks involved. The set size refers to the number of different stimuli that must be processed in the task (Cragg & Chevalier, 2012; Zelazo, 2006). Performance tasks that measure cognitive flexibility in young children typically use a small number of stimuli that involve switching between two simple tasks such as matching stimuli by their color and/or by their shape (Zelazo, 2006). Additionally, the
way in which the task rules are presented can affect the child’s flexibility. For example, when a child is switching between a small set size of only two colours, the rules are specific: red blocks go in the red box, and, blue blocks go in the blue box. However, when there is a large set size or varying colours, it is more efficient to make the rules more abstract. Such as, put the blocks into their same colour boxes (Cragg & Chevalier, 2012; Zelazo, 2006). Understanding the influence of set size in cognitive flexibility development can also better inform early school education for children in key areas such as mathematics and literacy where cognitive flexibility plays a central role (Blair and Razza, 2007; Bull and Scerif, 2001; Bull et al., 2008).

**Inhibitory Control.** Inhibitory control in an important component of executive function that allows for the suppression of competing, automatic, or dominant cognitive processing and resistance to interference from irrelevant stimuli (Bjorklund & Harnishfeger, 1995; Harvard University, 2011; Miyake & Friedman, 2012). In the literature, the term inhibition has been used to describe both the suppression of a prepotent response and the control of attention. Barkley (2003) describes prepotent responses as “those for which immediate reinforcement is available for their performance or for which there is a strong history of reinforcement in this context“ (p.83). This ability is used when the cognitive processing must be suppressed simply because it is inappropriate and when the cognitive processing must be suppressed in favor of an appropriate one. “This capacity keeps us from acting as completely impulsive creatures who do whatever comes into our minds” (Harvard University, 2011, p.2).

Inhibitory control has been suggested as playing a critical role in higher order cognitive function that coordinates a goal-directed behavior (Bjorklund & Harnishfeger, 1995; Miyake et al., 2000). Borrowing from adult tasks, most children’s complex inhibition tasks involve holding a rule in memory while inhibiting a prepotent response (Garon et al., 2008), such as in a Stroop task. In a modified Stroop task, children from ages 3.5 to 7 showed developmental improvements
in performance on this task, which requires children both to hold a rule in their head and to inhibit their visual input in responding (Gerstadt, Hong, & Diamond, 1994). According to Barkley (1997), inhibition sets the stage for the development of nonverbal working memory and is interrelated with working memory. Diamond (1988) suggests that inhibition and working memory are inextricably linked. For example, if an individual is not able to maintain information over time in order to inhibit incorrect responses, he or she will continue to choose the incorrect response, thus suggesting that working memory is needed to make correct responses.

Inhibitory control is important in maintaining attention span, memory development, and is related to social relationships and emotion well-being. Children rely on this skill to wait their turn and not call out in class, to ignore distractions and stay on task in school, as well as to stop themselves for responding to others by yelling or hitting (Harvard University, 2011).

**Working Memory.** Have you ever looked up a telephone number and remember it just long enough to dial it? That is an example of working memory. “The term working memory refers to a brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning” (Baddeley, 1992, p.556). According to the most widely accepted model (Baddeley, 1986; Baddeley & Hitch, 1974) working memory consists of at least three components: (a) the central executive which is without storage capacity and which is assumed to monitor and control two subsystems; (b) the phonological loop; and (c) the visuospatial sketch pad. The phonological loop, also identified as verbal working memory (Barkley, 1997), is considered to be responsible for temporarily storing and rehearsing auditory information. Verbal working memory is defined as the internalization of speech, which is fostered by the acquisition of language. The internalization of speech facilitates the development of rules, problem-solving strategies, self-monitoring, self-instruction, and metacognition (Barkley, 1997). The visuospatial
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sketch pad, also identified as visual working memory is considered to process and store visual and spatial information, such as remembering shapes, colours and location of objects (Baddeley & Hitch, 1974).

Recently, St. Claire Thompson and Gathercole (2006) distinguished between verbal and visuospatial measures of working memory in a population of 11- and 12-year-old children and found related links between these abilities and academic outcomes in the areas of reading and math. Neuroscientist from Harvard University (2011) and neuropsychologist Margaret Semrud-Clikeman (2011) suggest that a young child of age three would not be successful at storing information into working memory when asked to do more than one or two tasks at a time. Their brains are not yet developed enough. Meanwhile, as a result of their maturing brains, most elementary school children are able to follow up to four directions at a time.

Working memory is essential for carrying out multistep activities, implementing a sequence of actions, or following complex instructions. In review of the literature and for the purposes of this study, working memory is defined as the capacity to hold information in mind for the purpose of completing a task or making a response. (Barkley, 1997; Bull et al., 2008; Zelazo et al., 2003). In order for something to be stored in working memory, it must be rehearsed and practiced (Miyake et al., 2000; Harvard University, 2011). This can be a challenge for younger children as they are more easily distracted, and this lack of attention can make it difficult to remember information and store it in their working memory. For those who are younger, it is possible to improve the functioning of working memory by first, making sure the child is listening, only practicing one direction at a time, and having the child repeat the directions out loud (Semrud-Clikeman, 2011).
Executive Dysfunction

No matter how hard he tried, little Shelley just couldn’t be still for long. Sometimes he would get out of his seat and run around the classroom. Every morning he promised his mommy, ”I’ll be good today.” But every day something went wrong. ”Why do you keep doing things I tell you not to do,” asked his daddy? ”By the time I think about what I am going to do, I’ve already done it!” Shelley said sadly.” - Shelley, the hyperactive turtle by Deborah M. Moss (1989)

Executive functions are thought to play an important role in academic achievement. Children with weaker executive functioning may have difficulties acquiring appropriate skills both in the course of naturally occurring development and through instruction in the classroom (Bull & Lee, 2014). Teachers identify problems with paying attention, managing emotions, completing tasks, and verbally communicating wants and needs. It is often within the group setting of a classroom and the demands of schoolwork that delays or deficits in the development of age expected executive function skills are first noted (Lewitt & Baker, 1995; Rimm-Kaufman, Pianta & Cox, 2000 as cited by Harvard University, 2011). Children who have difficulties accessing, organizing, and coordinating multiple mental activities at the same time in academic areas are characterized as inefficient learners (Meltzer & Krishman, 2007).

These children make errors due to difficulties remembering and carrying out instructions, are unable to inhibit irrelevant information and stay on task, and are less capable when monitoring progress and switching to more appropriate task strategies (Bull & Lee, 2014). Executive dysfunction (EDF) does not only affect cognitive processes, but it can also impede emotional responses, such as mood, initiative, energy level, and social behavior. “Children exhibiting EDF may present as apathetic, unmotivated, and unresponsive, however, others may be impulsive and argumentative… Inflexibility and rigidity in children is often manifested by a
resistance to change activities, an inability to modify previously learned behaviours, and a failure to learn from mistakes” (Anderson, 2002, p. 72). If children with executive dysfunction are not identified in the early learning years, they may continue to be labeled as being unmotivated and lazy when it comes to academic achievement in junior or senior high.

It is important to note that academic problems can persist despite adequate performance on psychometric measures of intelligence, having no identifiable learning disabilities, and no domain-specific processing deficits in areas such as perception memory, or language (Denckla, 1996, cited in Poulouse, 2012). Cognitive deficits that may be related with executive dysfunction include poor impulse control, difficulties monitoring or regulating performance, planning and organizational problems, poor reasoning ability, difficulties generating and/or implementing strategies, perseveration and mental inflexibility, poor utilization of feedback and reduced working memory (Anderson, 2002).

However, deficient executive functioning can represent a key component of neuropsychiatric disorders, such as Attention Deficit Hyperactivity Disorder (ADHD) (eg. Adams & Snowling, 2001), dyslexia (eg. Reiter, Tucha & Lange, 2004) and autism (eg. Bishop, 1993). Executive dysfunction has also been associated with children who have learning disabilities and tend to have difficulties with self-regulation, problem solving, cognitive flexibility and organization (Meltzer & Krishnan, 2007). Adams and Snowling (2001) maintain that, “while some evidence suggests that behavior problems predispose the child to under achievement, other studies indicate that reading difficulties can increase the occurrence of disruptive behaviours” (p.293). It is suggested that behaviour regulation is important for school readiness. “In many ways, coming to school with a solid base of these foundational executive function skills is more important than whether children know their letters and numbers” (Harvard University, 2011, p.3).
Executive Functions in Reading Literacy and Reading Comprehension

Reading is a complex mental process that generally requires students to use a variety of cognitive constructs, including phonological awareness, sight word recognition, decoding, speed and fluency, reading comprehension skills, reasoning with verbal information, word knowledge, and basic language abilities (Adams, 1990; McCloskey, Perkins & Van Divner, 2009; Pressley, 2006). Skilled readers must manage all of these features, coordinating them seamlessly for effective comprehension (Cartwright, 2012). Beyond these typical constructs that most people would recognize as important in reading, executive functions also greatly impact reading development.

Emerging research affirms the contribution made by executive functioning to reading development (Blair & Razza, 2007; Cartwright, 2012; St. Clair-Thompson & Gathercole, 2006). Even before children begin to read, executive functions may affect the development of important pre-reading skills. The ability of a child to pay attention, follow directions, and inhibit responses has been found to have a positive relationship with emergent literacy and vocabulary skills in preschoolers (McClelland, Cameron, Connor, Farris, Jewkes & Morrison, 2007). For example, Farrar and Ashwell (2008, cited in Cartwright, 2012) demonstrated that children’s cognitive flexibility, assessed with theory-of-mind tasks, was related to their rhyming ability, which contributes to later reading skill. Similarly, Blair and Razza (2007) found that preschoolers’ inhibitory control was significantly related to essential pre-reading skills, such as phonemic awareness and letter knowledge in kindergarten.

Studies by Thompson et al. (2005) and Hale and Fiorello (2004) (cited in Kaufman, 2010) have demonstrated the impact of poor inhibition skills can have on a student’s ability to automatically name letters and subsequently sight word fluency. “Other elements of executive function that can influence the acquisition of decoding skills include impulse control, sequencing
and (especially) working memory ability” (Kaufman, 2010, p.99) For example, some children may lack the ability to decode multiple syllable words due to their inability to properly read the syllables in a consistent left to right order. The ability to decode multiple-syllable words requires working memory. Otherwise, a student may lose track of the sounds from the beginning of the word, while they are attempting to sound out the ending sounds, which may result in a tendency to blend sounds and parts of the word in a mixed-up manner. (Levine, 1998; Kaufman, 2010). When a student becomes confused sounding our unfamiliar words in a text, they may guess impulsively at words based on their first sound, showing a lack of inhibition control (Meltzer, 2010). Another area that working memory can demonstrate its affect on a student’s phonics skill is in spelling. In this case, a student may do well when spelling words in isolation, like on a weekly spelling test, but make errors when using the same words in story writing. They are unable to retrieve the proper spelling of the word at the time, or may not be making the connection between the words on their spelling test and how it is being used in context of a story (Kaufman, 2010).

The function of working memory is important in reading comprehension due to the need to hold onto what has been read from each sentence in short-term memory while attempting to create meaning throughout the paragraph or text (Swanson, 1999). Baddeley (1992) hypothesized the theory that working memory is supported by two systems that are necessary for reading comprehension: the phonological loop and the central executive. The phonological loop or articulatory loop is described as a temporary storage system for brief maintenance of verbal information, and the central executive oversees active manipulation of information in immediate memory and retrieval of information from long term memory. Executive function processes such as the role of working memory and self-regulation cues are critical to reading fluency, decoding
and comprehension (Meltzer & Krishnan, 2007; Sesma et al., 2009). In order to comprehend what is read, students need to rely on their reading skills and their executive functioning skills simultaneously by accessing their prior knowledge, flexibly shift from retrieving and interpreting previous knowledge while attending to and interpreting print, and combine the information with new content (Meltzer & Krishnan, 2007; Sesma et al., 2009). Children who read fluently but do not understand what they read may have problems with executive function skills (Sesman et al., 2009). After reading a text some students with EDF are able to answer factual, explicit question (who, what, where, why, when and how) but struggle with recalling more complex details. Due to the deficits in their working memory they are unable to adequately make predictions or draw inferences when reading (Kaufman, 2010).

As mentioned earlier, reading is a complex process. Equally complicated is identifying the factors that contribute to individual reading difficulties. Some children with lagging reading skills can be supported through differentiated instruction in the classroom and are able to keep up with their peers. Differentiation in the classroom may include breaking down a task into smaller parts, providing extra small group instruction, allowing for student choice, or making quiet spaces available for students to work in (Tomlinson, 2000). If after implementing a strong foundation of differentiated strategies in the classroom a student does not respond to daily instruction, it may be time to consider the need for further intervention.

**Intervention**

The focus on ensuring high-quality, evidence-based instruction in education is the responsibility of all teachers and is the best method for preventing later learning difficulties. Experienced teachers design effective instruction, provide on-going assessments, and monitor the progress of their students. This practice allows them to identify lagging skills and make referrals for intervention. “The term intervention appears to have first been used by Marie Clay in a 1987
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article in which she argued that children should not even be considered for learning disability designation until high-quality and responsive instruction had been provided and failed to accelerate the child’s progress” (Lipson & Wixson, 2012, p.111). The intent of intervention is to close the achievement gap for students whose progress is not at level with their peers.

Some key attributes of effective intervention have been outlined in research (Dorn, 2008; Lipson & Wixson, 2012). Intervention is intended to be short-term, explicit instruction that is aligned with the core curriculum. Instruction is based on a student’s performance on evidence-based assessments and tailored to target a specific set of skills to improve student achievement. During intervention, students are frequently monitored to document progress and to adapt or modify instruction as needed. Dorn (2008) reminds us of the urgency to intervene early with struggling readers. She has identified three challenges that poor readers have to overcome. First, poor readers need to unlearn any inefficient or inappropriate strategies that have become habitual. These strategies may be interfering with them acquiring any new learning. Next, poor readers need to make considerable gains in their learning to close the gap between them and their peers. This can be increasingly challenging as students get older and the reading levels of their classmates continue to increase with quality classroom instruction, which may make it difficult for them to catch up. Finally, poor readers need continued monitoring and support even after intervention to ensure that they maintain their reading gains. Dorn (2008) suggests “struggling readers need sensitive observation and flexible support for at least 1 year beyond the intervention period” (p. 31). These challenges are thought to be easier to overcome at the early stages of reading, as students have not yet developed poor habits, and the achievement gap is not as large as in the later years.

Torgesen (2000) also advocates for the importance of early literacy intervention. He proposes that the improvement of reading skills in the primary grades allows for greater
opportunities to practice as reading progresses throughout schooling. His ongoing research in the area of early literacy intervention outlines how challenges with reading affect vocabulary growth, attitudes and motivation to read. The lack of engagement with reading often leads to underdeveloped reading comprehension. However, the most concerning conclusion by Torgesen (2002) is that “students who struggle with reading at the end of first grade almost never acquire average levels of reading fluency” (p.8). It is again for these reasons that reading intervention has been a primary focus at the early elementary grades and why I believe that it is imperative that students receive the appropriate interventions.

Summary

There is a general consensus that the ability to read is a fundamental educational skill that forms the basis for future learning. Children need to be able to read well in order to engage fully in the classroom and learn. Today, many students have reading difficulties that if left untreated can have long-term consequence for their academic achievement and later success in life. Children who are behind in reading development at the end of first grade remain behind their peers in fourth grade (Juel, 1988) and continue to lag behind through high school (Cunningham & Stanovich, 1997). The above findings from research conducted with preschoolers and adolescent children suggest that reading and executive functions are interrelated. Therefore, it is my belief that students who fall behind with reading development would benefit from intervention that worked on both reading abilities and executive functioning skills.

When deciding to implement an intervention program, Lipson and Wixson (2012) suggest that there are some questions that need to be answered prior to beginning. Such questions include: a) How will students be selected for intervention? b) Who will provide the intervention instruction? c) What professional development will be required to ensure the highest level of instruction d) What systems does the school have in place for enacting intervention, monitoring
progress, and collaborating for student success? I will unpack these questions in chapter 3 as I explore two well-known reading intervention programs within the Response to Intervention framework. In chapter 3, I will also delve into assessment practices relating to reading achievement as well as executive functioning skills of cognitive flexibility, inhibitory control and working memory. Next, I will provide an overview of the essential component of reading. Finally, I will make suggestions on how to incorporate activities to enhance students’ executive functioning into reading intervention programs.
CHAPTER 3

Literacy is fundamental to student learning and yet teachers work daily with students who struggle in one or more academic area. It has been my experience that a success factor in a students schooling is their ability to read and to make meaning from what they have read. As students get older, “…it is hard to master subjects beginning in fourth grade if one cannot read at least at age-appropriate levels” (Almon, 2013, p. 22), and their ability to read proficiently not only affects them in language arts, but it also has an impact on their other subjects. Studies by Allington (2012), Almon (2013), Biancarosa and Snow (2006) and Torgesen (2002), have shown that children with poor reading skills at the end of first grade are unlikely to catch up later on, and are likely to have difficulties in reading throughout their schooling. It is for this reason that developing solid reading skills in the early grades is critical. Recently, as a result of research that shows how poor reading skills diminish a students future life chances (Allington, 2013; Torgesen, 2002), many studies have focused on the identification of students who struggle with reading literacy skills.

Unmistakably, the underlying aspects of reading difficulties are complex and are even at times perplexing. It is unheard of today in a classroom of on average twenty-five students to have a homogeneous group of learners, all with the same reading capabilities. It has been my experience that student’s competencies in the area of reading, in any grade classroom, vary greatly from one student to the next, with some that struggle to keep up with their peers. Most often, the depiction of a struggling reader is expressed using a deficit perspective, which suggests that they are in some way lacking the necessary facets of a successful learner. This point of view is problematic as many students who experience difficulties in reading are capable thinkers who despite their challenges are cognitively capable of achieving their grade level learning outcomes,
if not sometimes even excel given the proper supports. As a teacher, it is important to recognize when a student is not achieving at the expected rate, and know what can be done to support them.

In this chapter, I will outline important principles to consider when implementing a reading intervention program. Quality intervention programs are research-based and provide good results with struggling readers. However, it is my opinion that many programs being used to support at-risk students are only attending to the academic side of learning, and could be enhanced by including instructional practices to enhance cognitive processes. It is important to remember that challenges in reading can coexist with other factors, such as executive dysfunction, that can compound a student’s academic difficulty (Bull & Lee, 2014; Dawson & Guare, 2009; Kaufman, 2010; Meltzer 2010). In hopes to allow for a better understanding of how reading intervention can support struggling readers, I will break down the implementation process into three parts: Before Intervention, During Intervention, and After Intervention. But first, I will examine the principles of a successful reading intervention framework (Response to Intervention) and two intervention programs (Reading Recovery and Leveled Literacy Intervention) that are widely used within my school district to support at-risk learners.

**Response to Intervention**

A particular identification framework that is used in many schools in my district, and in literature, is the Response to Intervention (RTI) model. RTI is a policy, which first originated in the United States as a model to provide early intervention to at risk students (Lipson & Wixson, 2012; Reithaug, 2009; Torgesen, 2009). The principle of RTI is to provide supports to students who present with academic and behavioural deficits prior to labeling them as requiring ‘special education’ service, and in attempts to prevent school failure. RTI includes assessment practices to identify at risk students, monitor progress, plan for and implement research-based intervention, and adjust the intensity of intervention based on data collected from student
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performance (National Center on Response to Intervention, n.d.; Reithaug, 2009). “One of the primary goals of the RTI instructional model is to provide multiple tiers of interventions to prevent the emergence of early learning difficulties” (Torgesen, 2009, p. 38). In the RTI framework, there are three tiers of intervention.

Tier 1 is universal high-quality teacher instruction in the classroom. This may include some differentiated instruction to support all students. This may include starting a lesson with a KWL chart to connect with a student’s background knowledge, or providing a graphic organizer to help students capture their comprehension of a concept or of a chapter in a novel. If a student is experiencing some gaps in their literacy skills that are not being met by differentiated classroom instruction or flexible grouping, they may require Tier 2 intervention (Dorn, 2008; Howard, 2010; Reithaug, 2009). Tier 2 provides additional small group interventions. This support may be offered within the classroom, but it is often a pull out service. These services are designed to supplement classroom instruction with students working in homogeneous groups on specific skills. During this phase of intervention, it is recommended that students receive daily, 30-minute sessions to close the achievement gap, and then be reintegrated into the classroom. Students who do not respond to the small group interventions are recommended for more intensive interventions (Dorn, 2008; Howard, 2010; Reithaug, 2009). The most intensive is Tier 3. This is reserved for students who require the most supports. Tier 3 interventions are typically one-to-one tutoring outside of the classroom, provided by expert teachers or a reading specialist (Dorn, 2008; Howard, 2010; Reithaug, 2009). Howard (2010) recommends two, 30-minute sessions daily, with progress being monitored weekly. This is an intervention model that has been adopted by my school district, which we use to respond to both academic and behaviour needs. For the purpose of this paper, I will only be examining the tiers through the lens of reading intervention and will not be discussing supports for behaviour intervention.
RTI is guided by six principles of implementation (see Figure 1). I will be referring to these principles when discussing my approach to intervention later in this chapter.

![Table of Principles](image)

**Figure 1.** The 6 Principle of RTI.

It is important to note, that not all of the literature regarding the principles of RTI are exactly the same, however, they generally involve the following key principles adapted from the International Reading Association (IRA, 2010) and the National Center on Response to Intervention (n.d.).

**Principle 1 – Instruction.** RTI is first and foremost intended to prevent literacy deficits by optimizing quality instruction for every student, despite their level of academic achievement. Differentiated instruction and assessments provided by the classroom teacher are essential to the success of RTI. Additionally, the success of RTI depends on the classroom teacher’s use of research-based practices. As defined by the IRA (2002 brochure), research based means “that a particular program or collection of instructional practices has a record of success. That is, there is reliable, trustworthy, and valid evidence to suggest that when the program is used with a particular group of children, the children can be expected to make adequate gains in reading achievement.” (International Reading Association, 2002)

**Principle 2 – Responsive Teaching and Differentiation.** The RTI process emphasizes increasingly differentiated and intensified literacy instruction or intervention for students who
are lagging behind their peers. RTI recognized that students have varying literacy needs and may respond differently to similar instruction. Therefore, teaching specific skills must be based on individual student need. Instruction is based on relevant assessments and materials must be chosen based on specific student-teacher interactions and not be inhibited by packaged programs.

**Principle 3 – Assessment.** An RTI approach stresses assessment that can meaningfully inform literacy instruction. Teachers may first use an assessment as a screening tool to determine which students require further diagnostic assessments. Effective assessments should reflect the complexity of literacy and should provide the teacher with relevant data to determine the appropriate interventions. Both classroom teachers and reading specialist need to monitor the progress of student’s prior, during and after intervention. Many provinces or school districts may already have standardized testing requirements in place, but teachers should not rely solely on these assessments to identify at-risk students.

**Principle 4 – Collaboration.** RTI requires a positive and productive collaboration among the professionals with relevant contact to the students. This should include constant conversations between the classroom teacher and reading specialist, and may also include a member of administration or learning support facilitator. Success also depends on the relationships and collaboration involving the parents and the students themselves. Collaboration should highlight a shared vision of common goals to support instruction of struggling readers.

**Principle 5 – Systemic and Comprehensive Approaches.** RTI must be part of a systemic approach to literacy assessment that guides comprehensive instruction that supports all students. Teachers also require ongoing support through content specific professional development. Administrators must ensure adequate professional development, resources and scheduling to support the implementation of RTI.
**Principle 6 – Expertise.** All students have the right to receive instruction from highly knowledgeable and skilled classroom teachers. Teacher expertise is essential in improving student achievement, particularly for struggling students. Expertise in the area of literacy includes knowledge and understanding of literacy development and assessment tools, and teacher ability to design appropriate instruction to meet the needs of the students. Reading specialists or intervention teachers who provide Tier 2 and Tier 3 instruction must have a high level of expertise in language and literacy. They also require opportunities for extended practice under experienced professionals.

The three tiers of the RTI framework have been designed around the overarching principle that all students can learn and achieve to his or her full potential. The model recognizes that some students require further supports to experience grade level success. Specific approaches to RTI need to be appropriate for participating schools, taking into account their student population, expertise, and available resources. There are a variety of assessment tools and intervention programs that fit within the RTI framework and that have been adopted throughout school districts. I will examine two research-based intervention programs that focus on early literacy, Leveled Literacy Intervention and Reading Recovery. The reason I chose to examine these two programs is that my school district is currently using both of these programs in our elementary schools. Also, as I mentioned earlier, I am trained as a Reading Recovery teacher and I have also used the Leveled Literacy Intervention program when supporting early readers.

**Leveled Literacy Intervention**

Authors and researchers Irene Fountas and Gay Su Pinnell developed the Leveled Literacy Intervention (LLI) (2010) system to be used with students who are not at a level with their peers in the areas of reading and comprehension. Fountas and Pinnell have partnered with
Heinemann Professional Development to offer a three-day teacher training with the LLI program. The three days of teacher training include: a) overview of the Lesson Framework, b) understanding the demands of texts, c) assessing and grouping students, d) teaching within the LLI lessons, e) using the prompting guide, and f) documenting progress (retrieved from Heinemann Professional Development, 2015). Although the professional development sessions are available, they are not required to be able to use the program.

Prior to being placed in the LLI program, students’ reading level is assessed either by their classroom teacher or reading teacher. The students are evaluated through a running record of a grade level book. Although this can be from any leveled reading system, Fountas and Pinnell suggest the use of their Benchmark Assessment System (2008). This Benchmark Assessment is a pre-packaged gradient system used to determine the level of text students can decode and comprehend independently, and at an instructional level (with minimal support). Students who have been identified as reading below grade level are chosen to participate in the program.

Students who are achieving at the same (or similar) instructional level of text are placed in small groups of three and receive 30 minutes of daily tutoring for duration of eighteen to twenty-four weeks. During the program, students participate in a variety of pre-planned lessons, offered on an alternating schedule of instruction. Day 1 lessons include a) re-reading books from previous days, b) phonics and word work, c) introduction of a new book, and d) additional word work. Day 2 lessons include: a) running record of the same book from previous day, b) introducing a new book at independent level for fluency, c) writing and d) word work (optional) (Fountas & Pinnell, 2010). The packaged program and scripted delivery of strategies can be seen as a benefit, allowing for little variation in the components of instruction. However, as with any program, there are also limitations.
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One limitation to the LLI program is the kit itself. The starter kit is expensive, and some of the materials need to be replenished. For example, the Writing about Reading booklets are a consumable component and can become costly over time. Working in a small group can significantly benefit the students involved but can also be a limitation when students are absent from school. Because the group works in collaboration, when a student misses a session (or multiple sessions), it can cause frustration or anxiety for the student if he or she feels behind the group. It can also be difficult for the reading teacher to find additional time to catch up that student, as scheduling can be an obstacle. I will further discuss some of the benefits and limitations of the LLI program along with a second intervention program, Reading Recovery, later in this paper.

**Reading Recovery**

Perhaps the most widely used intervention program is Reading Recovery. Reading Recovery is an intervention program originally designed by New Zealand educator and psychologist Marie Clay in 1985 (1993a). The program is intended to increase the early literacy development of low performing first-grade children in the area of reading, and subsequently, writing through intense one-on-one tutoring with an expert teacher. Teacher training requires a one-year graduate level course in which teachers learn the pedagogical approach to the program, administer Reading Recovery to one or two students, while being observed and critiqued by colleagues in order to participate in on-going professional development.

The classroom teacher identifies students who are not performing at grade level in reading as candidates to take part in the Reading Recovery program. It is then the Reading Recovery teacher who selects the students to receive tutoring based on observation and assessment. Clay (1993b), developed An Observation Survey of Early Literacy Achievement as a tool for teachers to assess the early literacy development of their students, as well as to monitor their progress. The
A Hybrid Intervention Model

Assessments are done individually with each student and measure their performance on the following literacy tasks: a) Letter Identification, b) Concepts about Print, c) Word Reading, d) Writing Vocabulary, e) Hearing and Recording Sounds in Words, and f) Text Reading.

Following this time of individual student observation and assessment, the reading recovery teacher typically chooses the lowest performing students to tutor with explicit instruction.

A quality Reading Recovery program consists of daily 30 minute tutoring sessions over a span of twelve to twenty consecutive weeks. During the length of the program, the student is taken out of the classroom and receives one to one support in the area of literacy development.

The daily lessons follow a specific outlined structure: a) re-reading of a familiar book, b) reading the previous day’s new book and taking a running record, c) working on letter identification or making and breaking words, d) sentence writing, e) re-constructing a cut-up sentence, and f) introducing a new book. It is through the daily interactions, observations, and formative assessments that the Reading Recovery teacher is able to tailor the teaching strategies to each student’s individual needs. The goal of the Reading Recovery program is to accelerate the students’ early literacy development to a point where they can be independent learners in the classroom. Once a student is performing to the same standards as an ‘average’ same grade peer with regards to reading and writing strategies, they are discontinued from the program.

When deciding if a student is ready to be discontinued from the program, Reading Recovery teachers rely on much of the same criteria as they did in the pre-test. They will conduct a running record of a grade level book, which the student has not seen previously, in order to observe their accuracy, fluency, and use of strategies. They will also consider their performance on the tasks re-administered from An Observation Survey of Early Literacy Achievement (Clay, 1993b).

Although the Reading Recovery model developed by Marie Clay has proven to be a successful early reading intervention program, it has its limitations. The most significant
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limitation, I believe, is due to the fact that Reading Recovery is exclusively one-on-one tutoring that is not financially or educationally feasible. Because students do not work with others during their lessons, there is no social interaction or peer modeling as a support for learning.

Additionally, it is not cost effective to train an expert teacher who at most, can only work with eight to ten students at a time, depending on the schools schedule. As a result, many schools resort to using paraprofessionals in place of an expert teacher.

**Leveled Literacy Intervention and Reading Recovery At-A-Glance.** The design of both the Reading Recovery and the Leveled Literacy Intervention programs fit within the tiers outlined in Response to Intervention. As outlined below, each program is designed to support struggling readers through targeted instruction.

![Figure 2. Leveled Literacy Intervention and Reading Recovery At-A-Glance](image)

Leveled Literacy Intervention aligns best with a tier 2 intervention, providing small group instruction to students to enhance their skills and strategies being taught within the classroom.
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curriculum. Reading Recovery also meets the criteria of a Tier 2 intervention, but it leans more
toward a Tier 3 with its one-to-one tutoring. Students receive individualized, intensive supports in
Reading Recovery beyond that of LLI. Although, reading recovery does not meet the additional
30-minute time requirement of a Tier 3 intervention it does keep within the six principles of the
RTI framework. Adding to the complexity of reading instruction and intervention for teachers’ is
the awareness and understanding that there are also cognitive processes that impact reading skills.

A student’s brain functions and experiences combine to develop the various executive
function skills (Anderson, 2002). In education, executive functions play an important role in the
learning process by which learners plan and then strategically guide their behaviour toward
achieving those learning goals (Meltzer & Krishman, 2007). Children with executive dysfunction
(EDF) may have difficulties acquiring appropriate skills, and benefit from executive function
interventions (Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010).

Executive Function Interventions

Some of the most common characteristics of a child with EDF highlighted by teachers and
parents are disorganization, lacks initiation or attention, and forgetfulness. These children often
display off-task behaviour and require repeated prompts and reminders to successfully complete a
task. Lagging executive function skills can be developed by intervening with external factors such
as the environment, or by intervening at the internal level of the person (Dawson & Guare, 2004;
McCloskey et al., 2008; Meltzer et al., 2007).

Dawson and Guare (2004) and McCloskey, Perkins and Van Diviner (2008) describe ways
to change the environment by altering the physical environment, changing the expectations
of the task, and changing the way cues are provided to prompt the student. Teachers at school can
modify the learning environment by increasing the structure of the classroom, specifying
classroom expectations, providing clear instructions for each task along with positive feedback
regarding performance. Tasks can also be broken down to make it more manageable for the
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student. Environmental factors can also be adjusted at home to support student learning. Parents should consider having a designated time and area for doing homework where the student can be monitored. Students with EDF can become easily distracted and may require prompts or reminders to remain on task. Parental involvement relies on frequent communication between the school and home. Many schools, like mine, use agendas to record homework or send notes to parents.

Intervention can be focused on the person by changing the child’s capacity for using executive functions and motivating the child to use them effectively. Often, direct retraining of cognitive processes is necessary when engaging in person-focused intervention. Meltzer, Pollica, and Barzillai (2007), list the main elements that should be included in the classroom to enhance executive function processes. They revealed the following: “Strategy instruction should be directly linked with the curriculum; Metacognitive strategies should be taught explicitly; Strategies should be taught in a structured, systematic way, using scaffolding and modeling and providing time for practice; Students’ motivation and self-understanding should be addressed to ensure generalized use of strategies” (p.168). Likewise, Dawson and Guare (2012) emphasize the fact that teaching executive skills must be coached, rehearsed, and practiced, preferably in the environment in which they need to be performed. Parents and teachers must first teach the skills by using scaffolding and modeling, provide external support and monitor the skill development and allow sufficient time for practice to allow the skill to be part of the child’s routine (Meltzer, 2010).

In school settings, cognitive behavioural strategies and direct retraining tend to be the most effective (Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010). Essential components of direct retraining includes breaking the task into sequential steps, creating explicit instructions for each step, and providing time to practice each step and using reinforcement and motivation to encourage students success (Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010). One of the most common modes of direct retraining of executive functions is through computerized training (Diamond & Lee, 2011). Computerized training uses computer games that progressively increase...
the task demands, primarily targeting working memory and attention through repeated practice and immediate reinforcement. Efforts to use computer games to train inhibition control have experienced limited success (Diamond & Lee, 2011; Otero, Barker & Naglieri, 2014). Computer training methodologies are becoming more economically accessible and easy to implement in schools. Some advantages are they require no formal teacher training and students are not required to leave the classroom, provided there is a computer in the room. However, the effectiveness of this method of intervention has presented with mixed results when examining the transfer of skills to other cognitive processing tasks (Otero, Barker & Naglieri, 2014). We have experimented with computerized training programs at my school with grades 2 and 3 students in the areas of mathematics and reading. The students were initially engaged by the “game” they got to play on the computer. Nevertheless, in observing them I quickly realized that if the question was deemed too complex the students would not attempt to read or solve the problem, they would simply guess and “click” an answer. It is for this reason that I feel intervention is best delivered through teacher-student interaction.

**Reading and Executive Function Intervention – A Hybrid Model**

Students may become confused sounding out unfamiliar words in a text, they may guess impulsively at words based on their first sound (Meltzer, 2010) or, they may decode words well and read fluently but have difficulties constructing meaning from texts (Sesma et al., 2009). These examples of reading difficulties may be due to a lack in the student’s academic reading proficiency, but are likely related to underdeveloped executive functions. Therefore, it is my belief that students who fall behind with reading development would benefit from intervention that worked on both reading abilities and executive functioning skills. In this section, I will unfold three phases of the intervention process: 1) before reading intervention, 2) during reading intervention, and 3) after reading intervention. Each of these phases are rooted in the RTI principles and respects the well-established, research-based procedures founded in LLI and
Phase 1 - Before Reading Intervention. The steps required before implementing reading intervention in a school are important to consider and should not be overlooked. It is during this phase that the RTI principles of expertise, systemic and comprehensive approaches, collaboration and assessment need to be solidified. It is also during this phase of implementation that the questions highlighted earlier from Lipson and Wixson (2012) should be addressed: a) Who will provide the intervention instruction? b) What professional development will be required to ensure the highest level of instruction? c) What systems does the school have in place for enacting intervention, monitoring progress, and collaborating for student success? d) How will students be selected for intervention?

Teacher training and expertise is an area where programs such as, LLI and Reading Recovery differ from one another. Reading Recovery requires 75 hours of training, which includes observations and mentoring from trained professionals. Teacher training usual occurs over the span of a school year while refining their skills during practice with students. While Fountas and Pinnell (2010) recommend an expert teacher deliver their LLI program, there is no training or additional professional development required. It is my belief that teacher expertise is essential in improving student achievement, especially amongst struggling readers. However, I also recognize that a requirement of 75 hours of training may not be realistic. My expectation for an intervention teacher would be that they have courses or training in the area of early literacy, as well as, awareness and understanding of the various executive function processes that impact reading skills. In preparing this reading and EF hybrid model of intervention, I will be moving forward under the premise that the teacher has an appropriate level of expertise.

As previously mentioned, as part of the systemic and comprehensive principle of RTI, availability of resources, time and scheduling can be limitations to intervention programs. In every school I have worked in, it has been the responsibility of the principal to create class
schedules including co-curricular timetables, schedule assemblies, celebrations, collaboration periods, and reading intervention times. Fountas and Pinnell (2010) and Clay (1993) both advocate for daily 30-minute intervention sessions, which offers consistency and I also believe offers the best opportunity for success. In this instance, Reading Recovery may be easier to accommodate in the schedule as it only impacts one student at a time. Consequently, LLI stipulates that three to five students be released from class during the same block of time, and depending on the population of the school, the students may not be from the same homeroom causing additional scheduling problems. Despite the potential for increased scheduling conflicts, I support the LLI model as it encourages small group support. My preference in working with a small group of three children is supported by Vygotsky’s (1978) social constructivist model that emphasizes the role of social interaction in learning and that children learn not only in relation to their existing knowledge but are also influenced by those around them. It is also supported by Rosenblatt’s (1978) transactional theory of reading which reflects the students’ need for social interaction. It has been my experience that working with small groups can also be problematic depending on the needs and behaviours of the students. Therefore it is important for conversation and collaboration amongst the reading specialist and homeroom teachers (IRA, 2010) when choosing which students will participate.

<table>
<thead>
<tr>
<th>Student Name: ___________________________ Date: ___________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Literacy Pre-Assessment</td>
</tr>
<tr>
<td>PHONICS</td>
</tr>
<tr>
<td>Letter Naming</td>
</tr>
<tr>
<td>Letter-Sound Knowledge</td>
</tr>
<tr>
<td>Letter Recognition (optional)</td>
</tr>
<tr>
<td>Beginning Sound A.</td>
</tr>
<tr>
<td>Beginning Sound B.</td>
</tr>
<tr>
<td>PHONOLOGICAL AWARENESS</td>
</tr>
<tr>
<td>Identification of Rhyme</td>
</tr>
<tr>
<td>Generation of Rhyme</td>
</tr>
<tr>
<td>Blending Onsets and Rimes</td>
</tr>
<tr>
<td>Blending Phonemes</td>
</tr>
<tr>
<td>Segmenting Words</td>
</tr>
<tr>
<td>Hearing and Recording Sounds in Words</td>
</tr>
</tbody>
</table>
### Figure 3. Early Literacy Pre-Assessment

You may recall that assessment is a key component used for screening students in RTI, and it is also used in both Reading Recovery and LLI. The primary method of pre-assessment in LLI is most often through running records. A skilled reading teacher will be able to detect lagging skills through a running record while teachers with less training and experience may only be assessing for accuracy and fluency. Running records are also a technique used in Reading Recovery alongside targeted assessments. My recommendation is to use the Fountas and Pinnell Benchmark System (2008) previously described as a screening tool. If a student experiences difficulties or if the teacher is not certain of an area of development that further assessments be administered, using the recommendations from Clay (1993). Refer to Appendix A – Assessments for teacher directions and student record sheets for each of the following assessments.

The most complete way to assess a child’s EDF and to reveal their cause is a neuropsychological evaluation. This is a comprehensive evaluation that allows a clinician to determine areas of strength and weakness by overseeing a set of test, questionnaires, interviews, and observations. Such neuropsychological evaluations include Wisconsin Card Sorting Test (WCST, 1981), Wechsler Intelligence Scale for Children (WISC-IV, 2003), Comprehensive Executive Function Inventory (CEFI, 2004), and Woodcock-Johnson III Battery (WJ III, 2007). The aforementioned assessments require a certified level C examiner, and if the school does not have a qualified examiner on-site, they are required to pay for the assessments. Consequently, many students are never properly assessed and miss out on potential interventions.

At a school level, teachers can use classroom-based assessment and student observations to hypothesis a student’s level of executive function skills (Meltzer, 2010). Some observations on

<table>
<thead>
<tr>
<th>FLUENCY</th>
<th>Sight Word Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spelling</td>
</tr>
<tr>
<td>VOCABULARY</td>
<td>Writing vocabulary test</td>
</tr>
<tr>
<td>RUNNING RECORD (comprehension)</td>
<td>Text Level:</td>
</tr>
</tbody>
</table>
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behalf of the teacher may include: forgets to hand in homework, even when completed, becomes overwhelmed by large assignments, gets caught up in details and misses the big picture, unable to complete tasks in the time allotted. These classroom observations in conjunction with performance-based assessments typically lead teachers to engage in further conversation with the parents. In collaboration, teachers and parents may wish to complete a Behaviour Rating Inventory of Executive Function (BRIEF, 2013). The inventory is designed for student’s ages 5-18 and includes questionnaires for both parent and teacher to answer concerning the frequency of targeted behaviours. Dawson and Guare (2009) and Kaufman (2010) have also crafted similar questionnaires designed to inform parents and teachers regarding the core executive functioning skills. Simple questionnaires such as these can help teachers decide which strategies to implement in order to best support a student who may be slightly behind. I have included an adapted version of a questionnaire in Appendix B that can be used by teachers and parents as an initial entry point into identifying lagging executive function processes.

Through the use of assessments and professional collaboration between the teacher, parent and expert teacher students are selected for intervention. Early literacy intervention will target students in grade one, after Christmas, or starting in September with grade two students. Fountas and Pinnell (2010) and Clay (1993) vary slightly in the duration of their intervention programs, but I recommend planning for the eighteen to twenty-four weeks recommended in LLI program to allow time for pre-assessments, instruction, and post-assessments.

Phase 2 - During Reading Intervention. Like most adults, young children find comfort in familiar instruction and routines and schedules in a class. The concept of predictable procedures also includes explicit and direct instruction (NCAA, 2007). Explicit instructional practices include demonstration, guided practice, and independent practice wherein the teacher clearly states the goal of the lesson and models how a skilled reader uses them. Explicit instruction ensures students’ attention is drawn to important features of an example or demonstration (Learning Point
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Effective literacy teachers provide focused, timely, and relevant instruction that motivates and engages all learners. They select instructional approaches and learning resources based on their knowledge of the strengths and needs of each learner, as well as their knowledge of required expectations (York Region District School Board, 2007). The literature highlights the significance of establishing clear teaching objectives as an important element of effective teaching (Marzano, Pickering, & Pollock, 2001; Reithaug, 2009). Established objectives guide the learning to be undertaken. When teachers clearly articulate the goals of the lesson, students know what they are expected to achieve, are motivated to achieve those goals, and learn how to set goals for themselves (Marzano et al., 2001). To this end, teachers must communicate instructional goals that are challenging, and that motivate learners to align their efforts with the demands of the goal and prompt them to invest effort in the learning task.

During the implementation of intervention, students need assistance that scaffolds or expands their understanding of new ideas and experiences encountered in books or texts. Scaffolding teacher support and feedback leads the student towards independent practice. When teaching a new comprehension strategy I encourage the use of the gradual release of responsibility model (Vygotsky, 1978 cited in Pearson & Gallagher, 1983). First the teacher clearly explains a strategy followed by modeling, guided practice, feedback, application and independent practice. Gradually the teacher is able to remove support as the student takes on more responsibility for his or her learning. For example, in the case of making predictions while reading, the teacher gives an explanation of predicting, models through a think-aloud, followed by a shared reading of the text, subsequently followed by guided reading practice in small groups and finally, independent reading. In respecting the RTI principles of collaboration, assessment and expertise and adapting the research knowledge of literacy and EF experts (eg. Allington, 2007; Dawson & Guare, 2009; Learning Point Associates, 2004; Meltzer, 2010; Pressley, 2000; Reithaug, 2009) I have designed my intervention model around the following procedures.
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Intervention Procedures:

1. Direct instruction of a specific strategy to be used along with a description of how and when to use the strategy using concrete examples.
2. Modeling by the teacher of how and when to use different strategies.
3. Guided practice using practical exercises in which the students are given the opportunity to use the strategy.
5. Progress monitoring through formal and informal assessments and collaboration.

In adopting and adapting instructional reading strategies from both the Reading Recovery and LLI programs, my proposed intervention plan will follow the same procedural principles on a two-day rotation schedule based on the program elements of Fountas and Pinnell,(2010) and Clay (1993). I will focus instruction on the essential components of reading: 1) phonological awareness, 2) phonics, 3) fluency, 4) vocabulary, and 5) comprehension (Learning Point Associates, 2004; Fountas & Pinnell, 2010; NICHD, 2000; Reithaug, 2009) while incorporating executive function strategy development (Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010). See Appendix C-Lessons, for lesson plan templates and instructional strategies.

<table>
<thead>
<tr>
<th>Reading Intervention Lesson Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Student(s):</td>
</tr>
<tr>
<td>Mini Lesson (target strategy) – This may be introduced before or after reading depending on the focus of the lesson.</td>
</tr>
<tr>
<td>☐ I Phonemic awareness ☐ Phonics ☐ Vocabulary</td>
</tr>
<tr>
<td>☐ Fluency ☐ Comprehension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reading Before</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Before</td>
</tr>
<tr>
<td>Day 1</td>
</tr>
<tr>
<td>Warm-up Activity: (see below)</td>
</tr>
</tbody>
</table>
| Sight Word Review / Writing : | Sight Word Review / Writing :
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
One of the easiest ways to help students understand how to use their executive function skills of cognitive flexibility and inhibitory control in the interpretation of language and approaches to reading is to begin each lesson with a “5 minute warm-up” activity (Meltzer, 2010). Activities such as, jokes, riddles, and word categories can help students to recognize that there is more than one possible answer to a question. These activities are also a good way to engage and motivate the students prior to beginning an intervention session. Refer to the table below for warm-up activity ideas.
**Warm-Up Activities**

- Present ambiguous words and sentences to students in the form of riddles or jokes. This is an enjoyable way of helping students to use context clues to analyze words with multiple meaning. This activity should be linked directly and explicitly with reading comprehension tasks.
- Encourage students to identify different ways they can use specific objects such as a brick, a cardboard box, or an apple. This encourages them to shift approaches rather than getting “stuck” in one approach, and helps them to understand that objects as well as words can have different meanings and functions.
- Ask students to categorize weekly vocabulary or spelling words in a number of different ways. For example, by part of speech, meaning, beginning sound, vowel pattern.
- Ask students to identify several different ways in which selected multi-meaning words can be used. For example, *cut* paper, *cut* the line, *cut* class.
- Encourage students to write a short story from the perspective of an object, such as a penny or a lost sock. This teaches perspective taking and helps students to shift approaches.
- Ask students to create different ending for books they have read. This process encourages students to recognize that stories can end in many different ways.
- Play word games, such as Boggle, to help students to manipulate words in different ways and to think flexibly about words.

Source: Meltzer, 2010, p. 146)

When introducing a new book to the students for the first time, take the time to take a “book walk”. A book walk is when the teacher guides the students through a preview of the book, noticing the structure and sequence of the story, using the pictures to make predictions about the content, and to introduce new vocabulary or words that may be difficult to sound out. This process is important for students with executive dysfunction, particularly if the structure or vocabulary are unfamiliar. Without a preview of a new book, students tend toward word by word decoding which will impact the fluency of reading and the comprehension of the text (Kaufman, 2010).

The daily guided oral reading practice is an essential component of any intervention program. When the students are reading the new book on Day 1, or rereading a familiar book on Day 2, the teacher is following along with the text monitoring for miscues and strategy use (Clay, 1993; Fountas & Pinnell, 2010; NICHD, 2000). It is from observations during informal reading or taking a running record that guides teacher instruction. Using strategies that
A HYBRID INTERVENTION MODEL emphasize systematic, explicit teaching methods and that keep returning to specific skills until they are clearly mastered are far more likely to produce lasting skill development in children with EF challenges because they make clear what is being taught and include lots of guided repetition (Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010). The tables below outline effective EF strategies that can be introduced during intervention to increase the proficiency with the reading components.

<table>
<thead>
<tr>
<th>Cognitive Flexibility / Shifting Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shift between multiple word meanings</td>
</tr>
<tr>
<td>• Use riddles or jokes to teach students how to shift flexibly among meanings by using context clued, shifting from noun to verb use, or shifting accents of syllables in words. (fluency, vocabulary, comprehension)</td>
</tr>
<tr>
<td>Example: What did the ocean say to the shore? Nothing, it just waved.</td>
</tr>
<tr>
<td>Teach students to recognize and analyze ambiguities in words and sentences, and to shift between different meanings. Could this word have more than one meaning? Could it be used as both a verb and a noun? (fluency, vocabulary, comprehension)</td>
</tr>
<tr>
<td>• Require students to identify multiple-meaning words by using context clues, non-verb clues, and syllable accents, and to shift flexibly among the different possible meanings. Can I find clues in the sentence to help me? Can I change the accent or stress of the word? Which of the possible meanings is the most logical in this sentence? Can I restate the sentence using my own words? (fluency, vocabulary, comprehension)</td>
</tr>
<tr>
<td>• Explicitly link these activities with reading comprehension and writing, so that students will generalize and extend the strategies they learn to the different content areas. (fluency, vocabulary, comprehension)</td>
</tr>
</tbody>
</table>
The hiker looked at the **scale** carefully.

- machine for weighing
- plate on fish or reptiles
- proportion on a map
- to climb up
- series of musical tones

- **hiker** – suggests that the scale is something one might need in the wilderness
- **the** – suggests that scale is a noun
- **carefully** – suggests that the scale is important to the hiker; it might be hard to see

- proportion on a map

The hiker looked at the proportion on the map carefully.

Source: Meltzer, 2010, p. 152

2. Shift between different word analysis and blending approaches for decoding and spelling. Students sometimes rely exclusively on phonics if they are not taught how and when to shift strategies.

   - Teach students to recognize which words can be analyzed by using phonics and which words depend on sight vocabulary. (phonics, fluency)
   - Provide sentence-reading tasks where students need to shift between phonics and sight words. Require students to verbalize the difference, so that they develop a metacognitive approach to decoding and spelling. (phonological awareness, phonics, fluency)
   - Teach students to access their knowledge of prefixes and suffixes and related words in spelling. For example, **jumped** used **ed**, not **t**, because of past tense. (phonological awareness, vocabulary, fluency)

3. Shift between main ideas and supporting details in reading comprehension.

   - Teach students to differentiate among main ideas, important details, and less relevant details. Later, this is an important skill for summarizing and studying. (comprehension)
   - Require students to identify multiple-meaning words, as above. (vocabulary, fluency, comprehension)
   - Provide students with graphic organizers for sorting main ideas vs. supportive details. (comprehension)
   - Provide models for shifting from main ideas to supporting details. (comprehension)
4. Practice left to right blending.
   - Encourage students to focus on the sounds / parts of words, then go back and put the whole word together in a left to right order. Example, teacher asks child to say each letter-sound contained in a word /c/ /a/ /l/ and them blend them together. Or for longer words ex. slide /sl/ /l/ become /sl/ add third sound /sl/ etc. (phonological awareness, phonics, fluency).

Adapted from: Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010

<table>
<thead>
<tr>
<th>Inhibitory Control Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Word Families</strong></td>
</tr>
<tr>
<td>- Emphasis on common letter patterns can increase the automaticity with which children decode words. It may make them less susceptible to impulsive guessing at words. (phonological awareness, fluency)</td>
</tr>
<tr>
<td><strong>2. Self---Monitoring or Self---Checking</strong></td>
</tr>
<tr>
<td>- Teach student to underline difficult words. After reading, reflect on the word---reading strategy they used to read unfamiliar words. (comprehension)</td>
</tr>
<tr>
<td>- Teach strategies to figure out confusing or unknown parts in a text. For example, rereading the sentence, looking for contextual cues, pulling apart the words, looking for prefixes or suffixes, and looking for familiar word parts or phonemes. (phonological awareness, phonics, fluency, comprehension)</td>
</tr>
<tr>
<td>- Teach students to use symbols as margin notes to help with comprehension. For example, use an exclamation point for an exciting or surprising part in the text, use a question mark to represent confusing, use a happy face to show a fun or interesting part, and a star or asterix if something is important to remember. (comprehension)</td>
</tr>
<tr>
<td><strong>3. Establish Prompts or Cues</strong></td>
</tr>
<tr>
<td>- Teach student cues that can help them switch to a learning mindset. The prompts may be visual or verbal.</td>
</tr>
<tr>
<td>- Allow students to tape prompts to their desk or workspace for reference. See reading cues in Appendix. (phonological awareness, phonics, comprehension)</td>
</tr>
<tr>
<td><strong>4. Place Holder</strong></td>
</tr>
<tr>
<td>- Teach students to use finger, index card or ruler as a place marker to improve focus on the text and minimize their chances of losing their place. If reading longer texts, try placing the index card above the line, rather than below to reduce the possibility of rereading the same line and to focus attention on what is to come. (fluency)</td>
</tr>
<tr>
<td><strong>5. Build in Choice</strong></td>
</tr>
</tbody>
</table>

Adapted from: Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010
<table>
<thead>
<tr>
<th>Working Memory Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kinesthetic Approach</td>
</tr>
<tr>
<td>- Teach using a program that uses a kinesthetic aspect, incorporating body movement into the learning of letter-sound correspondences. For example, Animated Literacy (1998); Jolly Phonics (1998); Letterland (2003).</td>
</tr>
<tr>
<td>2. Attend to Details</td>
</tr>
<tr>
<td>- Teacher uses verbal cues to signal student to important information.</td>
</tr>
<tr>
<td>- Teach student to use visual cues to reinforce their attention to specific information. For example, colours, bold, images, side notes.</td>
</tr>
<tr>
<td>- Reduce distraction from the environment to help with attending to teacher directions.</td>
</tr>
<tr>
<td>3. Repetition, Rehearsal, and Review</td>
</tr>
<tr>
<td>- Teach students to verbally rehearse to provide an auditory stimulus when they hear themselves repeating the information. (phonological awareness, phonics, fluency, vocabulary)</td>
</tr>
<tr>
<td>- Teach students to copy important material over again. The combined effects of the visual focus of reading and the motor rehearsal of writing engage both the visual and kinesthetic modalities making the rehearsal more effective. (fluency, comprehension)</td>
</tr>
<tr>
<td>- Encourage students to transfer printed words to images in order to make connections, improving memory and comprehension. (comprehension)</td>
</tr>
<tr>
<td>4. Attach Meaning</td>
</tr>
<tr>
<td>- Teach students to associate new words or information to background knowledge, something familiar or known. (vocabulary, comprehension)</td>
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<tr>
<td>- Teach students to use verbal or visual association to make meaning. For example, acronyms, acrostics, rhymes, timelines, webs, charts or information maps. (comprehension)</td>
</tr>
<tr>
<td>5. Chunk Information</td>
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<tr>
<td>- Teach students to break down words, sentences or ideas into manageable parts. (phonological awareness, phonics, comprehension)</td>
</tr>
<tr>
<td>- Teach students to combine similar letters, phonemes, rhymes or ideas for later retrieval of information. (phonological awareness, phonics, fluency, comprehension)</td>
</tr>
<tr>
<td>- Teach students how to form ‘gists’. A gist is a mental summary about what was just read, without using the exact words. (comprehension)</td>
</tr>
</tbody>
</table>

Adapted from: Dawson & Guare, 2009; Kaufman, 2010; Meltzer, 2010; Souza, 2014

As previously mentioned, the RTI principles of assessment and collaboration are essential factors during reading intervention. As a reading intervention teacher, I find it helpful to keep a
journal of my observational data. During intervention sessions I write notes regarding the students reactions to new strategies, efforts, achievements or struggles in the program, and any noteworthy events that happen during instruction. A skilled reading intervention teacher will be able to detect areas of lagging skills and areas of growth through informal assessments such as observations and anecdotal notes however there is still a need for evidence-based assessments. LLI (2010) and Reading Recovery (1993) both advocate for the use of running records to collect data regarding decoding, fluency and comprehension. Although a running record can be taken from any book or passage of text, I prefer to use Fountas and Pinnell’s Benchmark Assessment System (2009) when determining a child’s reading level. This system of benchmarking reading is one that is used in all elementary schools within my school district and the student’s independent reading level is reported out to parents at minimum three times a year during reporting periods. Although my district has set a baseline for reporting reading levels to parents, it is my belief that parents of students receiving intervention support should receive regular feedback and reporting.

Communication and collaboration with parents is a strong feature in Clay’s (1993) Reading Recovery program, one that I have adopted. As part of the intervention program, parents are expected to support their child through nightly review. This would include reviewing the sight words, word work, and cut-up sentence that their child brings home each day. Rereading their leveled book(s) at home is also a critical part of home-school support. An additional 15-20 minutes of guided oral practice where the child reads aloud to an adult who is monitoring their reading and correctly as necessary can improve the automaticity of word recognition and improve fluency (Kaufman, 2010; NICHD, 2000). The time spent daily between parent and child enhances literacy development (Strickland, 2004), and it also allows the parent to see progress. Weekly reports are also provided for the parents and classroom teacher to outline what skills or strategies are being worked on during intervention sessions.
A HYBRID INTERVENTION MODEL

Fountas and Pinnell (2010) and Clay (1993) advocate continual collaboration amongst the intervention specialist and the homeroom teacher in order to monitor progress and appropriately plan for instruction. This professional collaboration, conversations regarding classroom assessments and performance, along with evidence collected during daily intervention sessions should guide decisions in regards to student needs. The length of time a student receives intervention would also be decided during collaboration, and a plan would be put in place to ensure student success once the supports have been removed.

**Phase 3 - After Reading Intervention.** Recalling that the goal of intervention is to provide short-term supports that enable students to develop new skills and enhance their competencies so that they can reintegrate fully into the classroom (Dorn, 2008; Lipson & Wixson, 2012). As a student gains competence, the teacher moves from a position of total responsibility and slowly removes levels of support. The gradual release of responsibility model which is built on the theories of Vygotsky’s (1978) zone of proximal development and Piaget’s (1952) cognitive structures and schema suggest the teacher should shift the responsibility of learning to the student through modeling and scaffolding of lessons.

Through consistent consultations with the classroom teacher, frequent student assessment, and parental involvement, the intervention teacher should make a plan to transition the student back into the classroom. Dorn (2008) suggests “struggling readers need sensitive observation and flexible support for at least 1 year beyond the intervention period” (p. 31). During this time, it is important that the classroom teacher continue to deliver explicate instruction and guided practice so that the child can maintain the level of responsibility, rigor, and achievement. If a child does not respond well to school-based interventions or is unable to retain the skills and strategies learned during intervention, he or she should be referred for additional academic and/or cognitive assessments (eg. WISC-IV).
Beyond monitoring the academic or cognitive abilities of the child, we need to remember to continue to foster the development of their EF skills. Some promising person-focused interventions that enhance the executive functions of shifting and monitoring include mindfulness training. Through sessions that involve “sitting meditation, activities to promote sensory awareness, attention regulation, or awareness of others or the environment” (Diamond & Lee, 2011, p.961) children are taught to self-regulate their behaviour through the use of self-talk. The basis of this approach stems from the work of Vygotsky and Luria (Otero, Barker & Niaglieri, 2014). There is some research that proposes that yoga, aerobic exercise, martial arts and traditional childhood games (eg. Mother May I?; Simon Says; Red Light, Green Light; Freeze Tag) can also help improve executive functions in school-ages children (Diamond & Lee, 2011; Otero, Barker & Niaglieri, 2014). It would be reasonable for classroom teachers to incorporate many of these activities into their weekly planning. Meanwhile, parents could be guided to explore some of the above activities outside of class.

**Summary**

Literacy is a powerful means of communicating and learning. Reading literacy provides student with a means to extend their knowledge, access ideas, and increase their understanding points of view and experiences of others. It also allows them to experience enjoyment and personal satisfaction. Children learn to read by being active in the reading process (Rosenblatt, 1978; Vygotsky, 1978). Reading requires knowledge of the five essential reading components (phonological awareness, phonics, fluency, vocabulary) and how they work together to construct meaning (comprehension) (Adams, 1990; Learning Point Associates, 2004; Fountas & Pinnell, 2010; NICHD, 2000; Reithaug, 2009). With explicit instruction, students become responsible for applying appropriate reading skills and strategies. This is possible when teachers present and read to children from a wide range of literature on a daily basis.
Some children succeed effortlessly when it comes to literacy instruction, while other continue to experience difficulty, primarily in the area of reading and reading comprehension. These deficits may be the result of teacher expertise or efficacy, where the student did not have adequate instruction in the skills needed for letter-sound recognition, decoding, or phonological awareness skills. They may not have received systematic and explicit reading instruction or sufficient opportunities for guided and independent practice. As a result, they fail to develop a rich vocabulary, which is an important component for fostering fluency and comprehension. However, even with high quality instruction some students still are unable to keep up to the demands of the classroom and with their peers. Struggling readers’ benefit from extra practice and targeted skill instruction offered through reading intervention.

My proposed model of intervention targets the language skills required for reading and comprehension of text, similar to that of Leveled Literacy Intervention (Fountas & Pinnell, 2010) and Reading Recovery (Clay, 1993). It also recognizes possible contributing factors such as executive dysfunction in the domains of cognitive flexibility, inhibitory control, and working memory (Anderson, 2002; Dawson & Guare, 2009; Bull & Lee, 2014; Kaufman, 2010; Meltzer, 2010; Meltzer & Krishman, 2007). Even without pursuing formal cognitive testing (eg. WISC-IV) to determine areas of executive dysfunction, teachers can adequately detect areas of concern. Through classroom-based assessments, student observations and anecdotal notes, classroom teachers may be prompted to engage in conversation with the student’s parents and the schools intervention teacher. In collaboration with the parents and in completing surveys and questionnaires regarding the students learning behaviours, executive function skills can be targeted.

It is important to remember that struggling readers frequently have strengths in other areas and rather than viewing these students from a deficit perspective, teachers need to uncover
their talents and celebrate them. My hope is that by understanding the characteristics of struggling readers and identifying areas of executive dysfunction teachers will be in a better position to assist these students with their continued development as capable and lifelong literacy learners.
Chapter 4

The purpose of this chapter is to share my personal and professional reflections regarding my journey throughout the M.Ed. program. I have organized my reflections into three categories. First, I will look back at some of the various courses and highlight some of my enduring understandings. Next, I will expand on how I anticipate integrating some of my key learning experiences into my work as a school vice-principal. Finally, I will reflect on my capstone project by making three recommendations for further research considerations.

Reflecting back on my M.Ed. program

As an opening activity on my first day of graduate class, we were asked to introduce ourselves, what our role in the school was, and what we hoped to get out of taking our Master’s with the University of Victoria. Many of us had similar answers such as, higher rank on the pay scale or seeking an administrative appointment. At the time, these were my reasons, and truth be told, are still motivating factors. However, as I near the end of this two-year journey, I have come to realize that I have gained more from my master’s experience than simply a bump on the pay grid.

Each of our courses stimulated numerous rich conversations within our cohort and this often led to either a new, transformed or deeper understanding of the topic. Some of the course topics required us to explore trends in elementary and secondary schools, research methodologies, innovative technology in the classroom, and they also allowed for personal choice and inquiry. Although each of the readings, assignments and class lectures added value to my experience, it was the time spent understanding curriculum, discovering my curricular ideology and considering my instructional leadership style that allowed me to look within myself and reflect on my role as an educator.

As a classroom teacher and as an elementary vice-principal, I had never given much thought to curriculum. Curriculum was simply the approved set of learner outcomes prescribed by
the government, and as I teacher, was required to teach those outcomes. This generalization regarding curriculum hasn’t changed, however my understanding of how curriculum is written has been modified. I have also come to realize how my choices within and across curriculum impacts student learning.

Curriculum is the foundation of education. It can be loosely described as the knowledge, skills and attitudes to be acquired by students through planned interactions between teacher and student with prescribed content. It is this prescribed content, or learner outcomes that I have since called into question. As I mentioned above, I hadn’t given much thought to the curriculum previously, but I find myself now looking at it with a more critical eye. During our courses, we learned how curriculum has changed and evolved over the years, and how changes in society have impacted education. For example, formal education began with an elitist model where the experts taught knowledge to the few deemed worthy of it. Next, we moved to the industrialization model where schools prepared students for the work force. Then, followed the scientific model and reconceptualization based on the needs of the current society.

It is undeniable that our society and our students are forever changing. But don’t our students across Canada need the same knowledge, skills and attitudes to become productive citizens of tomorrow? I pose this question in consideration of the different learning outcomes per provincial curriculum. Although many learning objectives are similar from one province to the next, it is puzzling to me that there is not a national standard on education. It would appear that curriculum development is more politically driven than I had previously realized. As I work with current curriculum and prepare for another redesign of Alberta’s curriculum, I am left to question the agenda behind the changes. Whose priorities are being met, those of the students or those of the politicians? Just as politics and changing societal norms have an effect on education and curricula, so do the attitudes, values, and beliefs of the individual teacher.

Throughout my courses and academic readings of scholars such as Eisner, Tyler and
Shwab, I came to understand that curriculum is more than the explicit educational objectives in the program of studies. Prior to my studies, I did not realize that my personal interests, expertise and bias in different subject areas influence what my students take away from my lessons. Additionally, I had not considered the impact of the implicit, hidden or null curriculum that exists within each of our schools and classrooms.

The implicit curriculum signifies the message the teacher gives regarding the importance of learning based on her values and the classroom environment. Therefore, every decision I make in my classroom gives a message about what I value. For example, I may say reading is important and necessary to learning, but only leave five minutes at the end of the day to read. It is similar to the saying “actions speak louder than words”. It is important to note that an implicit curriculum does not always lean toward the negative. Depending on the values of the teacher, it can also send a positive message. In addition, teachers will often make decisions about what to teach and what outcomes can be skipped over. These omitted or neglected parts of curriculum are referred to as the null curriculum. Therefore, by eliminating parts of the written curriculum, I may be giving students a skewed understanding of content, or depriving them the opportunity to experience multiple perspectives surrounding a subject area. I have admittedly done this without realizing the consequences. With the numerous outcomes to cover in various subject areas, I often look for the big ideas and make decisions about what I feel is important for my students to know and understand. This masters’ process has allowed me to realize that by what I say, or don’t say in regards to a topic gives a message of importance.

It is through the delivery of curriculum where we put our values into action. Eisner (1998) reminds us that we live in a pluralistic society with many perspectives and values that surround teaching and learning. He refers to these values in education as our curriculum ideologies. During one of our earlier courses, we explored the various ideologies and we were tasked with situating ourselves within one of them. My ideological stance is something I had not considered before.
Although I can see aspects of myself within multiple ideologies, I identify most with progressivism. My teaching approach puts emphasis on learning by doing and I do not see the students as simple vessels to fill with prescribed knowledge. Instead, I strive to foster an environment where the students are encouraged to think critically and to problem solve in order to create meaning. I believe that this lifelong skill not only values the students as learners but as a social being with their own context that influences their daily interactions. When teaching from an ideological stance of progressivism, I must be reminded to consider the culture, community and background of each individual student in order to nurture growth of the whole child. This stance can sometimes cause tension with the constraints of teaching in a catholic school division. For example, in Alberta’s current events was the passing of Bill 10, requiring school authorities to allow students to form gay-straight alliances in their school. In a catholic school, we are limited to the teachings of the Bible and not permitted to engage in conversation with our students around such controversial topics. Although I am a person of catholic faith, at times I find this ideological lens of religious orthodoxy limiting, as it does not allow for our students to explore and understand different perspectives. This is an area where I continue to seek a balance between my personal beliefs and my professional obligations.

The reality is curriculum is now and will be forever changing. A provincial curriculum may inform teachers about what skills must be taught at each grade level, but teachers play a key role in implementing curriculum. Throughout my graduate courses and professional reading, I have gained a better understanding of curriculum. As a teacher, I have a broader mindset regarding the impact my interpretations and interactions with the curriculum have on my students. As an administrator, I am now faced with helping my staff navigate the demands and challenges of a new Alberta curriculum. I will delve deeper into some of these proposed changes and how I hope to incorporate what I have learned regarding curriculum and instructional leadership into the next section.
Looking ahead at my professional career

There is a growing concern as to whether schools of today are providing the necessary skills for students to navigate the challenges of the 21\textsuperscript{st} century and be adequately prepared for life as adults. In response to these concerns, Alberta Education is in the process of redesigning curriculum to encompass the academic skills of literacy and numeracy with a competency-based education. The expectation is that teaching practices will become more focused on inquiry and project-based learning, with less specific learner outcomes. The proposed \textit{Curriculum Redesign} by the Government of Alberta is the most significant educational reform I’ve seen in my seventeen years of teaching. As a vice-principal and aspiring principal, I see my current and future work as an instructional leader, supporting teachers in working with the upcoming curriculum changes.

The notion of instructional leadership or change agent is not new to me, however who I am as an instructional leader, and who I want to become, have been made evident to me through my graduate experience. When considering the curriculum changes soon to be mandated by the government, I can already anticipate the trepidation from staff. This systemic change will require a shift in our school culture and its success will be greatly influenced, in part, by my leadership in the school.

When facilitating change, I am reminded of the fundamental requirements of communication and collaboration. Prior to implementing the new curriculum, it is important to start with open and honest discussions about how staff may be feeling about the changes. Also, outlining a clear vision can help staff understand what they are trying to achieve and why they are being asked to make changes to their practice. I believe that early conversations will generate people talking and thinking about the upcoming shifts in curriculum and it may even motivate some of the early adopters. Collaboration is another effective way to learn about a changing process, such as curriculum development. Without collaboration and an opportunity to learn during implementation, teachers may feel like they are alone in the process. It is possible that hearing the struggles or
challenges others may be facing will help them to feel more comfortable asking questions or offering insights into the situation. I strive to foster a collaborative culture between my staff, but I need to also consider that collaboration in itself can be a barrier for some teachers.

As a leader in the school, it is important to be mindful that people may react differently in response to the changes being made. Just as teachers differentiate for their students, I too, need to differentiate for my teachers. Although the changes in curriculum are being introduced simultaneously to all staff members, I have been reminded that the change process is still very individualized. Not everyone will be on board at the start, and that staff need to be allowed time to learn about and observe the changes for themselves before implementation. To that end, the rate in which each staff member develops the required skills and competencies needs to be respected. I appreciate that communication and collaboration are required at all levels, by all involved in the change process. However, targeted interventions in regards to communication and collaboration may need to be increased or made explicit in order to best support the needs of individual teachers.

I have learned that when you plan carefully and build the proper foundation, implementing change can be much easier, and the chances for success are significantly improved. Similarly, if you are too impatient, and if you expect too many results too soon, you are more likely to fail. It is my hope to effectively apply what I have learned about instructional leadership and becoming a change agent in my school, and to support my staff in implementing Alberta Education’s new competency-based curriculum. I firmly believe, that with frequent communication, collaboration and a shared vision for what is best for kids, any change – big or small, can be achieved.

**Recommendations for further research**

The purpose of my capstone project was to identify elements of effective literacy instruction, specific to reading, and to associate the student’s literacy achievement with their executive function (EF) skills. In doing so, I proposed an intervention model to support the development of early literacy skills among primary students. Overall, realizing how early literacy
skills and EF relate to achievement has implications for educational practices and our understanding of early development in general. From a child-development perspective, the association between EF and early literacy skills is a relatively new phenomenon that requires further research.

It is my belief that many teachers are not familiar with executive functions and how these skills can impact academic achievement. I feel confident making this statement based on my personal experience. While working on my capstone paper, I engaged in conversation with different colleagues who were not familiar with EF. I myself only began to learn about EF during professional development sessions in the area of positive behaviour supports. It wasn’t until I began my literature review that I realized how critical EF development is to student success. For this reason and after having read numerous studies which indicate the effect EF can have on various student abilities, such as reading, math, and personal social development, I propose that pre-service teachers should have training in the area of EF prior to becoming a classroom teacher. Future research could be conducted by collecting data regarding teacher knowledge of EF. The data collected in this study could be used to support the need for course development in post-secondary institutions.

There are many implications for teacher practice and future research that arise around supporting struggling readers through intervention. My findings in the literature review emphasized the importance of early interventions to support the development of literacy skills. The research also highlights the value of early detection and intervention with executive dysfunction. There have been studies and research to support the implementation of reading intervention programs such as Reading Recovery (RR) and Leveled Literacy Intervention (LLI). The data shows that most student respond favorably to such intervention programs. Seeing as the traditional intervention programs only include instructional activities directed at reading skills, I believe additional research should consider the implications of explicit EF instruction during intervention. The research questions I
would propose are: How do RR or LLI students respond to tutoring compared to students who receive an integrated executive function approach to intervention? Further to that, what are the long-term benefits of a hybrid intervention model that responded to both the students lagging skills in literacy with the enhanced supports of executive function development?

Moreover, there is a concern with the number of children who would benefit from individual or small group intervention and the realities regarding the number of children who receive intervention. This number increases exponentially in schools with higher at-risk populations. For example, schools where there may be a large number of immigrant families or where there is a lack of parental involvement. It is important to note that in many school districts, such as mine, there is no additional staffing allocation given to schools to allow for intervention programs. That being the case, schools that choose to provide individual or small group supports do so at the cost of something else. Therefore, I feel that further research is required to investigate how the instructional strategies of an intervention model can be adapted to address the high numbers of at-risk students? To that end, can the instructional strategies of an intervention model be implemented in a typical classroom environment, where students are not pulled out for supports?

Conclusion

I have enjoyed the Master in Education program and I was able to take away something (even if it was little) from each course. However, with the broad span of topics that were covered, I feel this experience has left me with a ‘generalist’ degree in curriculum studies. After a break from the continuous research and writing, I am strongly considering continuing on with further graduate work. Perhaps a second Master’s degree or a PhD. This process has allowed me to see value in pursuing a graduate degree in a specialist field, making my skill set unique and more marketable as I continue to pursue my career. I want to thank the professors from the University of Victoria who have journeyed alongside me for their dedication, wisdom and support.
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A HYBRID INTERVENTION MODEL


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A HYBRID INTERVENTION MODEL


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A HYBRID INTERVENTION MODEL


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A HYBRID INTERVENTION MODEL


A HYBRID INTERVENTION MODEL


http://futureofchildren.org/futureofchildren/publications/docs/11_01_01_.pdf


# Appendix A – Assessments

## Student Early Literacy Profile sheet

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<td><strong>PHONICS</strong></td>
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<td>Letter Naming</td>
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<td>Letter-Sound Knowledge</td>
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<td>Letter Recognition (optional)</td>
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<td>Beginning Sound B.</td>
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<td><strong>PHONOLOGICAL AWARENESS</strong></td>
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<td>Identification of Rhyme</td>
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<td>Generation of Rhyme</td>
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<td>Blending Onsets and Rimes</td>
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<td>Blending Phonemes</td>
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<td>Segmenting Words</td>
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<td>Hearing and Recording Sounds in Words</td>
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<td><strong>FLUENCY</strong></td>
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<td>Sight Word Recognition</td>
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<td><strong>VOCABULARY</strong></td>
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<td>Writing vocabulary test</td>
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<td><strong>RUNNING RECORD</strong> (comprehension)</td>
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**Letter Knowledge Assessment**

Provide student with a copy of the letter page

Allow the student to use either upper or lower case letters, or both.

➢ Allow the student to approach this task in his/her own way.
  S/he may:
  
  o point to one letter at a time in a sequential fashion and name it.
  o point only to letters s/he knows in a random fashion
  o call the letters by their names, or identify them by one of the sounds the letter
    makes or a word that starts with that letter

➢ Accept all responses and record how the student approached the task. Record all
  responses without comment. (Scoring Sheet pg.13)

a. **Letter Naming**

Say, “Can you tell me the names of any of these letters?”

b. **Letter-sound Knowledge**

Say, “Can you tell me the sounds of any of these letters?”

c. **Letter Recognition** (Optional – may be completed if student is weak with letter naming)

  Say, “I’m going to say the names of some of these letters. Will you see if you can find
  and point to the letters I say?”
**STUDENT RECORD SHEET**  NAME: ___________

**Beginning to make connections between letter names and sounds**

**TEACHER DIRECTIONS** (use different colors each time)

(use Upper and lower Case letters- student prompt sheets)

1. Point to letters Check (" ") on letter if names correctly. (retrieval on command)
2. When a student is struggling to name letters on demand, say “Tell me the letters you know”
   (spontaneous retrieval)
3. Underline if student knows sound letter makes. What sound does _____ (point to) make?
4. Double underline for knowing two sounds
5. Write word under letter. What words begin with ____ (name letter)
6. Probes (if student unable to do tasks above)
   a. Circle letters student recognizes. Find the ____.
   b. Square letters student correctly identifies with sound. What letter makes __ sound?

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<td>Letter recognition</td>
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A HYBRID INTERVENTION MODEL

STUDENT PROMPT SHEET
Alphabet Recognition – Lower Case

b   f   y   o   p   w

a   n   x   m   z

c   d   e   g   t

l   j   q   k   s

u   h   v   r   i
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<td>Q</td>
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<td>S</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>H</td>
<td>V</td>
<td>K</td>
<td>I</td>
<td></td>
</tr>
</tbody>
</table>
Beginning Sounds

**STUDENT RECORD SHEET**

**NAME:**

Directions:” I’m going to say two words. Listen very carefully to the first sound in each word and tell me if the words start with the same sound. If you’re having trouble hearing the first sound in the word repeat them after I say them with your own mouth and feel the sound that your mouth is making at the start of each word. Say “yes” if these words start with the same sound. Say “no” if they don’t start with the same sound”

Demonstration Items: “Do these two words start with the same sound?”

Bug ~ ball pill ~ rat

A. Initial sound discrimination –

**TEACHER DIRECTIONS:** “Tell me if these word pairs start with the same sound?”

✓ for correct response

<table>
<thead>
<tr>
<th>sun-sit</th>
<th>Month</th>
<th>Month</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>cat-pop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>toy-tug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mitt-boy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>silly-hat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>big-balloon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Matches sounds to letters

**TEACHER DIRECTIONS:** Use student prompt sheet.

<table>
<thead>
<tr>
<th>B-- bat</th>
<th>Month</th>
<th>Month</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>w--- web</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>o--- octopus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P---pig</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s--- sock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n--- nest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**STUDENT PROMPT SHEET**
Makes connections between letters and sounds

**TEACHER DIRECTIONS:** Look at the picture. Say the word. Point to the letter the word starts with? (If necessary, tell the student the name of the picture)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Bat" /></td>
<td><img src="image" alt="Spider" /></td>
<td><img src="image" alt="Octopus" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P</th>
<th>B</th>
<th>T</th>
<th>W</th>
<th>X</th>
<th>H</th>
<th>U</th>
<th>A</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G</strong></td>
<td><strong>V</strong></td>
<td><strong>P</strong></td>
<td><strong>O</strong></td>
<td><strong>S</strong></td>
<td><strong>Z</strong></td>
<td><strong>N</strong></td>
<td><strong>M</strong></td>
<td><strong>F</strong></td>
</tr>
</tbody>
</table>
Identification of Rhyme

STUDENT RECORD SHEET  
NAME: _____________

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cat bat</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>hairy berry</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>fruit vegetables</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>book look</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>light bright</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>head house</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>sad mad</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>table girl</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>flower flashlight</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
<tr>
<td>see bee</td>
<td>YES NO</td>
<td>YES NO</td>
<td>YES NO</td>
</tr>
</tbody>
</table>

Date _________  Date _________  Date _________
Score _____/10  Score _____/10  Score _____/10

Adapted from: Essential Kindergarten Assessments for Reading, Writing and Math (200

TEACHER DIRECTIONS

1. Explain to the child that he or she should listen carefully while you read pairs of words aloud. Inform the child that you will stop for a moment between the words in each pair.

2. Explain that if the two words have endings that sound the same or rhyme, the child should say ‘yes.’ (other options are to have student say rhyme or same)
   If the words have endings that sound different, the child should say ‘no.’ (other options are to have student say don’t rhyme or not the same)
   Provide at least two examples:
   - You might say, ‘Listen: milk (pause) pail. Do those words rhyme’ (i.e. end the same) Yes or no?
   - You might say, ‘Listen: tease (pause) sneeze. Do those words rhyme’ (i.e. end the same) Yes or no?

3. Begin saying the word pairs. Note that each pair may be said aloud a second time only.

4. Record the child’s response by circling YES or NO in the form below.
Generation of Rhyme

**STUDENT RECORD SHEET**  
**NAME:**

<table>
<thead>
<tr>
<th>Word List</th>
<th>Child’s Response 1st Assessment</th>
<th>Child’s Response 2nd Assessment</th>
<th>Child’s Response 3rd Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>dog</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>right</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>chair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mouse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>back</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ship</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Date ________  
- Score _____ /10  
- Date ________  
- Score _____ /10  
- Date ________  
- Score _____ /10

Tell me some words that rhyme.

<table>
<thead>
<tr>
<th>MONTH</th>
<th>List words</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from: Essential Kindergarten Assessments for Reading, Writing and Math (2007)

**TEACHER DIRECTIONS**

1. Tell the child that you will say a word aloud and that he or she should listen carefully to its ending.

2. Explain that you will stop for a moment after you say each word so the child can think of a word that rhymes with it. Provide at least two examples:
   - You might say, ‘Listen: **boat** (pause) Tell me a word that rhymes with **boat**’ (i.e. end the same).
   - You might say, ‘Listen: **snail** (pause) Tell me a word that rhymes with **snail**’ (i.e. end the same).

3. Say each of the ten words on the word list, pausing between each word to record the child’s response on the Teacher Form. Note that each word may be said aloud a second time only.
A HYBRID INTERVENTION MODEL

Phonological Awareness

a. Blending Onsets and Rimes

1. Explain that you will say two parts of a word aloud. The child should listen carefully and repeat those sounds in order to say the word. (i.e. “push the sounds together to say the word”)

   Provide at least two examples:
   • You might say, “What’s my word? Listen: h-ot.”
   • You might say, “What’s my word? Listen: sn-ake.”

2. Say the first onset-rime combination listed on the teacher Form (b-ed). You may say the onset and rime aloud a second time, but a second time only.

3. If the child’s response demonstrates understanding, write a checkmark in the grid below. If the child makes errors, record his or her response.

4. Repeat the process until the child has attempted to say all ten words.

b. Blending Phonemes

1. Determine whether you will assess simple or complex word blending and familiarize yourself with the word list you’ll be using
   \( v= \) vowel \( c= \) consonant
   Simple: vc, cv, vcc, cvc or complex: ccvc, cvcc, cvvce, cccv \ word blends.

2. Explain that you will be saying the sounds in words one by one. The child should blend or string together the sounds to say the word as a whole. You might say: ‘I will slowly stretch out a word. Your job is to repeat each sound in the same order and then push the sounds together to say the word as a whole. Listen as I practice with a few words.’ Then, use the following examples:

   /s/ /a/ /m/ . . . Sam (Preferably, use the child’s own name.)
   /a/ /t/ . . . at
   /p/ /i/ /n/ . . . pin

3. Read the first word on the word list, saying each sound in the word slowly, separately, and clearly. Note: Be sure to say the sounds, not the letters, in the word. If the child experiences difficulty completing the task, try saying the first sound loudly and follow with the other sounds as before.

4. Write a checkmark on the Teacher Form if the child says the word correctly. If child makes an error, record the error and your observations on the back of the page.

5. Repeat the process until the child has attempted to say (blend) all the words.
c. Segmentation of Words

1. Explain that you will read a word aloud. The child should say the same word and then repeat it again slowly, stretching the word out sound by sound. While he or she says the word, the child should move a block to represent each sound.

2. Distribute counter for sounds/syllables and provide at least three examples:
   • You might prompt, ‘Say: see. Now say it again, stretching the word out sound by sound.” (A child may respond by saying the /s/ sound and then the /long e/ sound and moving a block for each.)
   • You might prompt, “Say: cat. Now say it again stretching the word out sound by sound.” (A child may respond by saying the /k/ sound, the short /a/ sound, and then the /t/ sound, moving a block for each.)
   • You might prompt, ‘Say: “pit”. Now say it again, stretching the word out sound by sound.” (A child may respond by saying the /p/ sound, the short /i/ sound, and then the /t/ sound, moving a block for each.)

3. On the Teacher Form, record a checkmark above each correctly spoken, isolated sound.

4. Each word is worth one mark. Therefore I point is awarded if all sounds are segmented not a point for each sound.

Adapted from “Essential Kindergarten Assessments for Reading, Writing and Math”2007
# A Hybrid Intervention Model

## Student Record Sheet

### Phonological Awareness:
- a. Blending Onsets and Rimes
- b. Blending Phonemes
- c. Segmentation of Words

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b-ed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c-ake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f-eeet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r-ide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g-ame</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h-at</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s-ick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ch-ain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sk-unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bl-ock</td>
<td>Month __________</td>
<td>Month __________</td>
<td>Month __________</td>
</tr>
<tr>
<td></td>
<td>Score _____/10</td>
<td>Score _____/10</td>
<td>Score _____/10</td>
</tr>
</tbody>
</table>

### b. Blend Phonemes

<table>
<thead>
<tr>
<th>Simple Word blends</th>
<th>Child's Response 1st Assessment</th>
<th>Child's Response 2nd Assessment</th>
<th>Child's Response 3rd Assessment</th>
<th>Answer Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>/fl/ /l/ /tf/</td>
<td>cvc</td>
<td></td>
<td></td>
<td>fit</td>
</tr>
<tr>
<td>/nl/ /long o/</td>
<td>cv</td>
<td></td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>/fl/ /o/ /fb/</td>
<td>cvc</td>
<td></td>
<td></td>
<td>job</td>
</tr>
<tr>
<td>/lr/ /ei/ /ld/</td>
<td>cvc</td>
<td></td>
<td></td>
<td>red</td>
</tr>
<tr>
<td>/tl/ /s/ - /is/ - /kl/</td>
<td>vcc</td>
<td></td>
<td></td>
<td>ask</td>
</tr>
<tr>
<td>/fl/ /ln/</td>
<td>vc</td>
<td></td>
<td></td>
<td>in</td>
</tr>
</tbody>
</table>

If the student can complete the above you can complete the Complex word blends below:

<p>| thl/ fl/ /long e/      | cccvv                           | three                           |                                 |
| ls/ t/ /ol/ /pl/       | ccvc                            | stop                            |                                 |
| fn/ rl/ /long a/       | ccvvv                           | train                           |                                 |
| /ld/ /ul/ /ls/ /l/     | cvcc                            | dust                            |                                 |
|                           | Month __________                | Month __________                | Month __________                |
|                           | Score _____/10                  | Score _____/10                  | Score _____/10                  |</p>
<table>
<thead>
<tr>
<th>Segmentation of Words</th>
<th>Child's Response 1st Assessment</th>
<th>Child's Response 2nd Assessment</th>
<th>Child's Response 3rd Assessment</th>
<th>Answer Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>sat</td>
<td>sat</td>
<td>sat</td>
<td>sat</td>
<td>/s/ /a/ /t/</td>
</tr>
<tr>
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<td>/p/ /long /i/</td>
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<td>skip</td>
<td>skip</td>
<td>skip</td>
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<td>/s/ /k/ /i/ /p/</td>
</tr>
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<td>/c/ /i/ /p/</td>
</tr>
<tr>
<td>belt</td>
<td>belt</td>
<td>belt</td>
<td>belt</td>
<td>/b/ /e/ /l/ /t/</td>
</tr>
<tr>
<td>deep</td>
<td>deep</td>
<td>deep</td>
<td>deep</td>
<td>/d/ /long /e/ /p/</td>
</tr>
</tbody>
</table>

Date _______  Date _______  Date _______
Score ____/10  Score ____/10  Score ____/10

Adapted from “Essential Kindergarten Assessments for Reading, Writing and Math” 2007
Hearing and Recording Sounds in Words

This assesses student knowledge of letter/sound relationships. This is **not** a spelling test. The teacher who is a perceptive observer will note that partially correct responses will tell a great deal about the range of each student's knowledge. This data will be instrumental in planning future interactive writing, shared reading, and mini-lessons for guided reading and writing workshop.

**Materials Needed:** Blank sheet of unlined paper
Hearing and Recording Sounds in Words Score Sheet
Writing utensil

**Directions**

Administer this test one-on-one so you can notice the student's behaviors.

- Give the student a blank, unlined sheet of paper.
- Say: "I'm going to read a story. You will write it down. I'll read the whole story first. Then I'll read one word at a time so you do not have to worry about remembering the sentences. You may not know how to spell all of these words. That’s alright. Just say each word **slowly** and **write down all the sounds you hear**."

- Read the sentence at a normal speed. Then say each word, pausing to allow the student time to write. You may repeat the word but **do not stretch** the word out for the student.

- If the student pauses while writing a word, you can ask, "**What else do you hear?**" Remember, **do not stretch** out the word for the student or lead or guide the student.

- If the student is unsure about how to proceed, after a reasonable amount of time you can say, "**Let's go to the next word. That word is ____**."

- Take anecdotal records of your observations as the student writes in order to inform later instruction. Note any errors in letter sequencing, directionality (top to bottom, left to right), omissions of sounds, unusual spacing on the page, unusual placement of letters within words, partially correct attempts, and/or "good confusions" (skool for school).

**SCORING:** One point is given for every phoneme recorded correctly even if the whole word is incorrect.
- If you question whether or not a score should be credited, score conservatively rather than liberally.
- If a letter does not have a number under it on the score sheet, it does not receive a point. (**s e e**)
Hearing and Recording Sounds in Words
continued

- Additional letters do not affect scoring as long as the numbered letters as shown on score sheet are included. (example: blike for bike still receives 3 points for the b-i-k.)

- When two letters are underlined and one number is beneath them, both letters must be present and in the correct order to receive a point.
  (i.e.: th, sh oo)

- Capital letters are acceptable substitutions for lower case letters and vice versa.

- Consonant substitutions are counted correct if two consonants can make the same sound
  
  skool  tace  cee
  school  take  see

- Vowel substitutions which are counted correct if the sound can be made by either vowel. ("A" is never counted as a substitute for "e" as in "vary" for "very". The first response would receive only 3 points for the "v", "y" and "y")
  
  bak =3  bas =3  cum =3  were =4
  bake  bus  come  very

- Where the student has made a change in letter order, take one point off for that word.
  
  ma  am 2-1=1  going 5-1=4
  21 22 23 24 25 26 27

- Letter reversals do NOT receive a point if the reversal creates a different letter. (b/d, p/q)

Sentences:

1. I can see the red boat that we are going to have a ride in.
   
  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

  22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

2. The boy is riding his bike. He can go very fast on it.
   
  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

  21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

3. I have a big dog at home.
   
  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

  17 18 19 20 21 22 23 24 25 26 27 28 29 30

  31 32 33 34 35 36 37
Hearing and Recording Sounds in Words Observation Sheet

Student Name: _______________________ Date: ______________ Score: ____/37

Administration: Task may be given to the class, a small group, or a student. Select one of five sentences/forms. The student is given credit for every sound (phoneme) that he/she writes correctly, even though the whole word may not be correctly spelt. The score gives some indication of the student’s ability to analyse spoken words and record in letters the sounds that he/she can hear.

Say to the class/group/student:
I am going to read you a story. When I have read it through once I will read it again very slowly so that you can write down the words in the story.
Read the test sentence at normal speed. Then say:
Some of the words are hard. Say them slowly and think how you can write them. Start writing the words now.
Dictate slowly, word by word. If a student comes to a problem say:
You say it slowly. How would you start to write it? What can you hear? What else can you hear?
If a student cannot complete the word, say:
We’ll leave that word. The next one is .

Use the scoring guide and number phonemes recorded by student (see example); record score. Comment on sequencing errors, omission of sounds, usual use of space on page, unusual placement of letters within words, and partially correct attempts.


Use blank paper or fold heading under for dictation task.

Comment
Sight Word Recognition

TEACHER DIRECTIONS

Directions:

1. Choose the word/word lists you want to use. (eg. Marie Clay, Fountas & Pinnell, Ohio)

2. Give the student the student prompt sheet list of the targeted sight words, and then:
   - Ask the student to read the words on the list, beginning with the top row.
   - Allow three to four seconds per word, then move to the next word
   - If the child misses a number of words in a row, e.g., five words, ask the child to scan down the list for words he/she knows

3. If the word list is too confusing for the child put each sight word on flash cards
   - Ask students to identify each word
   - Say: "Read aloud each word"

4. Record students' responses on a student record sheet
   - If the child makes an error, write the word that the child said.
   - record the hesitations and the substitutions or attempts made
   - This information will help you analyse errors and develop instruction.

3. To identify if the child can recognize words (versus retrieve the words) or to use for a group assessment.
   - Use student prompt/record sheet with each sight word represented in a row
   - Use the first row as practice. You can have students move an index card or blank paper down the page to help them keep their place.
   - Say: 'Put your finger on the first row.' (Model this.) 'Look across the row at each word.'
   - Say: 'Find the word I.' (Model this.) Check responses. 'Now move your finger down to the next row. Find the word a. Circle the word.'
<table>
<thead>
<tr>
<th>Name ____________________________</th>
<th>Date __________________________</th>
</tr>
</thead>
<tbody>
<tr>
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<td>I</td>
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<td>me</td>
<td>am</td>
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<tr>
<td>the</td>
<td>go</td>
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<tr>
<td>and</td>
<td>my</td>
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<tr>
<td>List 2</td>
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<td>on</td>
<td>to</td>
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<tr>
<td>this</td>
<td>look</td>
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<td>go</td>
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<tr>
<td>can</td>
<td>to</td>
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</table>
Spelling

TEACHER DIRECTIONS:

PURPOSE: To determine whether the child can hear sounds in words with short vowels and how to represent each of the sounds with letters.

TEACHER DIRECTIONS:

1. Model for the students how to listen for sounds in words and how to represent each sound with a letter:

   - Say: "Please write your name at the top of the paper. Today you are going to spell some words. I will show you how. Please listen and watch me. I want to spell the word bat. First, I will say the word slowly and listen to each sound. Bb-aa-tt. I hear a /b/ sound at the beginning of Bb-aa-tt so I am going to write a b [write on a white board or chart paper]. Bb-aa. In the middle of the word I hear an /a/ sound so I am going to write an a next to the b [write a]. Bb-aa-tt. At the end of the word I hear a /t/ sound so I am going to write a t at the end of the word [write a t after the a].

   Now I want you to spell some words. I want you to listen carefully, say each word to yourself and then write down a letter for each sound you hear. You can use the alphabet at the top of the page to help you remember how to write a letter."

   - Say: "The first word is rag." Do not assist children except by encouraging them. You may prompt by saying: "What other sounds do you hear?" Continue the assessment as suggested below.

   - Say: "The next word is mob . . . ."

   - Give Word list 2 only if the child spells all the words in List 1 conventionally.

TIPS FOR SCORING:

1. Examine the child’s spelling of each word.

   - Compare the child’s spelling with the Allowable Spellings List 1 (below)
   - Note that most of the sounds may be represented by more than one letter. For example, in the first word, rag, /r/ may be represented by w or y as well as by r. In the middle of the word rag, the /a/ may be represented by e as well as by a. And at the end of the word rag, the /g/ may be represented by k as well as by g.

2. Record your observations on the student’s record sheet. For each spelling word, put a check over the letter that represents the sound (phoneme), even if it is not the ‘correct’ letter in terms of the conventional spelling of that word and even if the letter is written backward or out of order. (each word has 3 phonemes, for a total of 15.)

3. If the word is spelled correctly put an extra check in the space beside the word.

4. Count the total number of checks for all the words and record this number next to Total (____/18).

5. Record your observations (with a comment) about the student’s ability to hear and represent sounds anywhere on the student record sheet.
A HYBRID INTERVENTION MODEL

- Does the child write only letter-like forms or random letters?
- Does the child represent some consonant sounds by an appropriate letter?
- Does the child attend to sounds at the beginning of the word? The middle of the word? The end of the word?
- Does the child represent the word by writing a single letter?
- Does the child include any vowels?
- Note whether the student was able to represent consonant sounds, consonant blends, and digraphs with appropriate letters.
- Note whether the student attended to sounds at the beginning of the word, the middle, or the end.
- If the student tried to spell using long vowel patterns, not that, as well.
- For students who have difficulty with the fine motor coordination required to write, you may wish to administer this assessment individually, using manipulatives so

6. **MODIFIED PRESENTATION**: use magnetic letters or tiles arranged alphabetically for the student if child has difficulty with the fine motor coordination or letter retrieval needed to write letters

<table>
<thead>
<tr>
<th>Allowable Spellings List 1</th>
<th>Allowable Spellings List 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Word</strong></td>
<td><strong>Phonemes Represented By Letters</strong></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>1. rag</td>
<td>/t/ /a/ /g/</td>
</tr>
<tr>
<td></td>
<td>r a g</td>
</tr>
<tr>
<td>2. mob</td>
<td>/m/ /o/ /b/</td>
</tr>
<tr>
<td></td>
<td>m o b</td>
</tr>
<tr>
<td>3. fun</td>
<td>/f/ /u/ /n/</td>
</tr>
<tr>
<td></td>
<td>f u n</td>
</tr>
<tr>
<td>4. sit</td>
<td>/s/ /i/ /t/</td>
</tr>
<tr>
<td></td>
<td>s i t</td>
</tr>
<tr>
<td>5. jet</td>
<td>/j/ /e/ /t/</td>
</tr>
<tr>
<td></td>
<td>j e t</td>
</tr>
</tbody>
</table>

Total ________/20

Total ________/18
A HYBRID INTERVENTION MODEL

STUDENT RECORD SHEET

NAME: __________

SPELLING

abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

1. ____________________________

2. ____________________________

3. ____________________________

4. ____________________________

5. ____________________________

MONTH: _______Total Phonemes _______/20

(1 extra point for conventional Spelling)

Adapted from "Kindergarten Literacy" 2006
Writing Vocabulary Test

This assessment reveals what the student knows about directionality and letter/sound relationships. The teacher will observe how the student thinks of words. (Does one word remind him/her of another in a word family? Does s/he think of words that begin or end the same? Does s/he think of words by categories like opposites or animals or people?) The list will provide insight not only about what the student has been taught, but what s/he has learned from the environment. The teacher will have a record of words the student controls with automaticity. The observational data gathered will assist the teacher in planning interactive writing lessons, shared reading lessons, and mini-lessons for guided reading and writing workshop.

Materials: Blank, unlined paper
Writing utensil
Timer

Directions

Administer this test one-on-one so student behaviors can be observed.

- This test has a 10 minute time limit.
- Seat student so s/he cannot copy words from the environment.
- Place a BLANK, UNLINED sheet of paper in front of the student.

Say: “I want to see how many words you can write. Can you write your name? (Start timing now.)

▶ If the child says ‘Yes’ say: “Write your name for me…..Good. Can you write your last name? Now think of some other words you know how to write.”

▶ If the child says ‘No,’ ask her/him if s/he knows any single-letter or two-letter words. "Can you write ‘I’ (pause), ‘me’ (pause), ‘to’?

Accept all attempts. If the student asks you if a word is written correctly just encourage her/him to keep going. If the student stops in the middle of a word, simply suggest s/he try something else. “That’s okay, try another word.” or “You can come back to that one.”

When s/he stops writing or when s/he needs prompting, suggest words the student might know how to write. Do not overwhelm her/him with prompts. Give the student time to think.

- Possible suggestions:

| I, a, is, in, me, my, to, come, like, see, he, we, and, at, here, yes, no, look, go, it, zoo, play |

Writing Vocabulary Test continued

- **DO NOT PROMPT FOR WORDS IN A SERIES (WORD FAMILIES)**

  Open ended questions are better: “**Do you know how to write any color words.....number words?**”

- Give the student **up to** 10 minutes to write.

If it becomes apparent that the student has exhausted his written word repertoire before the ten minute time limit, stop the test and note how much time has passed.

- Take anecdotal notes as the child writes. (Does s/he write left to right? Does s/he start at the top left of the page? How is s/he thinking of words?)

- **After the test** put the student name, date and teacher name on the paper.

**SCORING**: Score one point for each word correctly spelled.

- Do NOT give the student a point for writing a word that he spontaneously tells you is another word. For example, he says, “I can write ‘cat’”, but he writes ‘car’ instead.

- Letter reversals do not affect the score unless the reversal creates another letter. (b/d, p/q)

- A word written right to left (‘nac’ for ‘can’) is counted correct IF you watched the student actually start writing the word on the right with the ‘c’ then move to the left with the ‘a’ and then the ‘n’.

- A series of words can each be counted correct IF the student spontaneously produces the series and the teacher does NOT prompt for them. (ie: *fat, cat, sat*, or *look, looks, looking*)

- Capital letters are an acceptable substitution for lower case letters and vice versa. Therefore “I” written as “i” is scored correct.

- Record the number of words written correctly on the K-2 Literacy Profile.

When a student is able to write 40-45 words in the 10 minute time period the value of this test for predicting future changes will diminish. The teacher can begin to measure how the student works with more traditional spelling or writing tasks.
A HYBRID INTERVENTION MODEL

STUDENT RECORD SHEET  
NAME: ____________

Writing Vocabulary
TEACHER DIRECTIONS: “Print all the words you know”.

1st attempt (Month ______)

2nd attempt (Month ______)
A HYBRID INTERVENTION MODEL

Running Record

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<thead>
<tr>
<th>Name:</th>
<th>Recorder:</th>
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</table>

**Text Level**

<table>
<thead>
<tr>
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<th>RR</th>
<th>F &amp; P</th>
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</table>

**Scores:** Running Words - Errors

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<tr>
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<th>Error Rate</th>
<th>ACC. %</th>
<th>SC Rate</th>
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</table>

**Fluency:**

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reads word-by-word with occasional but infrequent or inappropriate phrasing; no smooth or expressive interpretation, irregular phrasing, and no attention to author's meaning or punctuation; no stress or inappropriate stress; slow rate.</td>
<td>Reads primarily in 2-word phrases with some 3- and 4-word groups; some word-by-word reading; almost no smooth, expressive interpretation or pacing guided by author's meaning and punctuation. Almost no stress or inappropriate stress, with slow rate most of the time.</td>
<td>Reads primarily in 3 to 4 word phrase groups; some smooth, expressive interpretation and pacing guided by author's punctuation and meaning, mostly appropriate stress and rate with some slowdowns.</td>
<td>Reads in longer, meaningful phrases or word groups; mostly smooth, w/expressive interpretation and pacing guided by author's meaning and punctuation; appropriate stress and rate with only a few slowdowns.</td>
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**Guide to Total Comp Score**

<table>
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<tr>
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<th>Excellent Comprehension</th>
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<tbody>
<tr>
<td>5</td>
<td>Satisfactory Comprehension</td>
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<tr>
<td>4</td>
<td>Limited Comprehension</td>
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<td>0-3</td>
<td>Unsatisfactory Comprehension</td>
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**Page Title and Level:**
<table>
<thead>
<tr>
<th>Key Understanding</th>
<th>Prompts</th>
<th>Comprehension Conversation</th>
<th>Score</th>
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<tbody>
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<td><strong>Within Text</strong></td>
<td>Name the characters.</td>
<td></td>
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<tr>
<td></td>
<td>Tell the problem in the story.</td>
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<td>1</td>
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<td></td>
<td>Tell what happens in the story; name events of the story.</td>
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<td>2</td>
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<tr>
<td></td>
<td>(First, next, then, after that, finally)</td>
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<td>3</td>
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<td></td>
<td>What happens in the end?</td>
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<td><strong>Beyond Text</strong></td>
<td>What did you think about as you read?</td>
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<td></td>
<td>How did the characters feel when...?</td>
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<td>How do you know?</td>
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<td></td>
<td>Why do you think that?</td>
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<td>Does this remind you of anything?</td>
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<td>Why did...?</td>
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<td></td>
<td>How did the author make you interested in the story?</td>
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<td>What did the author want you to learn?</td>
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<td>Tell what you think will happen next.</td>
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<td></td>
<td>Did this book make you wonder about anything?</td>
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</table>

**Comprehension Scoring Key**

0: No understanding; doesn't respond or talks off topic
1: Very limited; few facts; respects important info
2: Partial; includes important information and ideas but respects other less understanding
3: Excellent; includes most important information and main ideas

0 1 2 3

For Additional Understanding
# Reading Level Correlation Chart

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Reading Recovery</th>
<th>Fountas-Pinnell Guided Reading</th>
<th>DRA</th>
<th>Basal Equivalant</th>
<th>Lexile Levels</th>
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<td>W, X, Y</td>
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<td>Z</td>
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Appendix B – Executive Function Questionnaires

Executive Skills Questionnaire for Students

Read each item below and then rate it based on how well it describes you. Add the total score for each set of three items.

1 -- Strongly Disagree
2 - Disagree
3 - Neutral
4 - Agree
5 - Strongly Agree

Item

1. I act on impulse.
2. I get in trouble for talking too much in class.
3. I say things without thinking

Total Score: __________

4. I say “I’ll do it later” then forget about it.
5. I forget homework assignments or forget to bring home needed materials.
6. I lose or misplace belongings such as coats, notebooks, sport equipment, etc.

Total Score: __________

7. I get annoyed when homework is too hard or confusing or takes too long to finish.
8. I have a short fuse; am easily frustrated.
9. I get upset easily when things don’t go as planned.

Total Score: __________

10. I have difficulty paying attention and am easily distracted.
11. I run out of steam before finishing my homework.
12. I need many reminders to start chores.

Total Score: __________

13. I put off homework or chores until the last minute.

Total Score: __________

14. It’s hard for me to put aside fun activities in order to start homework.
15. I need many reminders to start chores.

Total Score: __________
16. I have trouble planning for big assignments (knowing what to do first, second. Etc.)
17. It’s hard for me to set priorities when I have a lot of things to do.
18. I become overwhelmed by long-term projects or big assignments.

Total Score: __________

19. My backpack and notebooks are disorganized.
20. My desk or workspace is a mess.
21. I have trouble keeping my bedroom tidy.

Total Score: __________

22. I have a hard time estimating how long it will take to do something (such as homework).
23. I often don’t finish my homework at night and rush to get it done before class.
24. I’m slow getting ready for things (e.g., school or appointments)

Total Score: __________

25. If the first solution to a problem doesn’t work, I have trouble thinking of a different one.
26. It’s hard for me to deal with changes in plans or routines.
27. I have problems with open-ended homework assignments (e.g., don’t know what to write about when given a creative writing assignment).

Total Score: __________

<table>
<thead>
<tr>
<th>Items</th>
<th>Executive Skill</th>
<th>Items</th>
<th>Executive Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>Response Inhibition</td>
<td>16-18</td>
<td>Planning / Prioritizing</td>
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<tr>
<td>4-6</td>
<td>Working Memory</td>
<td>19-21</td>
<td>Organization</td>
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<td>7-9</td>
<td>Emotional Control</td>
<td>22-24</td>
<td>Time Management</td>
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<td>Sustained Attention</td>
<td>25-27</td>
<td>Flexibility</td>
</tr>
<tr>
<td>13-15</td>
<td>Task Initiation</td>
<td></td>
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</tr>
</tbody>
</table>

Executive Skills Strengths (3 highest scores)

1. ____________________________
2. ____________________________
3. ____________________________

Executive Skills Weaknesses (3 lowest scores)

1. ____________________________
2. ____________________________
3. ____________________________
Executive Skills Questionnaire for Parents (Students in grades 1-3)

Read each item below and then rate it based on how well it describes you. Add the total score for each set of three items.

1- Strongly Disagree
2 - Disagree
3 - Neutral
4 - Agree
5 - Strongly Agree

Item

2. Can be in close proximity to another child without need for physical contact.
3. Can wait until parent gets off phone before telling him/her something.

Total Score: __________

4. Is able to run errand with two to three steps.
5. Remembers instructions given a couple of minutes earlier.
6. Follows two steps of a routine with one prompt.

Total Score: __________

7. Can tolerate criticism from an adult.
8. Can deal with perceived “unfairness” without undue upset.
9. Is able to adjust behaviour quickly in new situation (e.g., calming down after recess).

Total Score: __________

10. Can spend 20---30 minutes on homework assignments.
11. Can complete a chore that takes 15---20 minutes.
12. Can sit through a meal of normal duration.

Total Score: __________

13. Can remember and follow simple one to two---step routines (such as brushing teeth and combing hair after breakfast).
14. Can get right to work on classroom assignment following teacher instruction to begin.
15. Will start homework at established time (with one reminder).

Total Score: __________
16. Can carry out a two- to three- step project of own design (e.g., arts and crafts, construction).

17. Can figure out how to earn/save money for an inexpensive toy.

18. Can carry out two- to three- step homework assignment with support (e.g., book report).

Total Score: __________

19. Puts coat, winter gear, sports equipment in proper locations (may need reminder).

20. Has a specific place in bedroom for belongings.

21. Doesn’t lose permissions slips, notices from school.

Total Score: __________

22. Can complete a short task within time limits set by an adult.

23. Can build in appropriate amount of time to complete a chore before a deadline (may need assistance).

24. Can complete a morning routine within time limits (may need practice).

Total Score: __________

25. Will stick with challenging task to achieve desired goal (e.g., building difficult Lego construct).

26. Will come back to a task later if interrupted.

27. Will work on a desired project for several hours or over several days.

Total Score: __________

28. Plays well with others (doesn’t need to be in charge, can share, etc.).

29. Tolerates redirection by teacher when not following instructions.

30. Adjusts easily to unplanned---for situations (e.g., substitute teacher).

Total Score: __________

31. Can adjust behaviour in response to feedback from parent or teacher.

32. Can watch what happens to others and change behaviour accordingly.

33. Can verbalize more than one solution to a problem and make the best choice.

Total Score: __________
### Key

<table>
<thead>
<tr>
<th>Items</th>
<th>Executive Skill</th>
<th>Items</th>
<th>Executive Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>Response Inhibition</td>
<td>16-18</td>
<td>Planning / Prioritizing</td>
</tr>
<tr>
<td>4-6</td>
<td>Working Memory</td>
<td>19-21</td>
<td>Organization</td>
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<td>7-9</td>
<td>Emotional Control</td>
<td>22-24</td>
<td>Time Management</td>
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<td>10-12</td>
<td>Sustained Attention</td>
<td>25-27</td>
<td>Goal-directed Persistence</td>
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<td>13-15</td>
<td>Task Initiation</td>
<td>28-30</td>
<td>Flexibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31-33</td>
<td>Metacognition</td>
</tr>
</tbody>
</table>

Executive Skills Strengths (3 highest scores)

1. ________________________________

2. ________________________________

3. ________________________________

Executive Skills Weaknesses (3 lowest scores)

1. ________________________________

2. ________________________________

3. ________________________________

## Appendix C – Lesson Plan Template

### Reading Intervention Day 1 Lesson Plan

<table>
<thead>
<tr>
<th>Date:</th>
<th>Student(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mini Lesson (target strategy)** – This may be introduced before or after reading depending on the focus of the lesson.

- [ ] Phonemic awareness
- [ ] Phonics
- [ ] Vocabulary
- [ ] Fluency
- [ ] Comprehension

### Warm-up Activity: (EF Focus)

### Sight Word Review / Writing:

1.  
2.  
3.  

### Before Reading

- Introduce New Book
  - **Title:**
  - **Level:**
- [ ] book walk / activate prior knowledge / make predictions
- [ ] introduce new vocabulary
- [ ] introduce difficult words from the text
- [ ] set goal for reading today (this may be individual for each student)

### During Reading

Teacher observes and makes anecdotal notes regarding reading behaviours: decoding, self-correction strategies, fluency and comprehension

### Word Study:

- [ ] Picture sorts
- [ ] Sound boxes
- [ ] guess the covered word
- [ ] onsets and rimes
- [ ] Making words
- [ ] spelling

### After Reading

New sight words:

1.  
2.  
3.  
**Reading Intervention Day 2 Lesson Plan**

**Date:**
**Student(s):**

**Mini Lesson (target strategy)** – This may be introduced before or after reading depending on the focus of the lesson.
- [ ] Phonemic awareness
- [ ] Phonics
- [ ] Vocabulary
- [ ] Fluency
- [ ] Comprehension

**Before Reading**

<table>
<thead>
<tr>
<th>Warm-up Activity: (EF Focus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sight Word Review / writing:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

- [ ] Re-read familiar book
  - [ ] review words that were challenging in yesterday's lesson
  - [ ] review today's reading goal

**During Reading**

**Running Record / Observe reading behaviours**

**Teach new sight word(s):**

**Word Study (optional)**
- [ ] Picture sorts
- [ ] Making words
- [ ] onsets and rimes
- [ ] guess the covered word
- [ ] Sound boxes
- [ ] spelling

**Guided writing**
- [ ] Cut up sentences
- [ ] Complete story organizer
- [ ] Sentence writing / journal writing / written responses
Before, During and After Reading

Criteria for Text Selection

- Familiarity of language or syntax
- Amount of new vocabulary
- Graphic or other text features
- Organization of information
- Level of text (see reading level correlation chart)

Before Reading

Teacher:

- Selects appropriate text
- Prepares for introduction of text
- Briefly introduces the story; activate background knowledge
- Leaves some questions to be answered during reading
- Build interest in the text; foreshadow a problem; get students wondering about something in the text
- Invite students to make predictions, raise questions, and anticipate the text
- Call attention to difficult words in context; explain a few concepts or vocabulary
- Point out unfamiliar text features such as bold type, italics, ellipses
- Show how to recognize, break apart, two or three new words

Student:

- Engages in conversation about the text (book walk)
- Makes predictions about the text
- Poses questions
- Sets reading goal

During Reading

Teacher:

- Listens
- Observes behaviour for evidence of strategy use
- Confirms and reinforces student’s problem solving attempts
- Assists with problem solving when appropriate (prompting,

Student:

- Reads the whole text or selected pages
- Problem solves while reading for meaning (with occasional help from teacher)
- Confirms predictions, may make new predictions
- Rereads parts that may have been challenging

After Reading
Teacher:

➢ Talks about the ideas raised in the introduction
➢ Invites student response about the text
➢ Assesses student’s understanding of what they read (comprehension)
➢ Returns to the text for teaching opportunities
➢ Develop word work instruction

Student:

➢ Talks about the text they have read
➢ Checks predictions and answers questions
➢ Revisits the text at points of problem solving (guided by the teacher)
➢ May reread the text with a partner or individually
➢ Engage in comprehension activities or strategy development activities arising from the reading

**Prompts to Help Solve Words During Reading**

To help students notice errors: (following a hesitation or stop in reading)

- Why did you stop?
- What did you notice?
- You noticed what was wrong
- Find the part that’s not quite right
- Check to see if that looks right
- Think about how the word looks

To help students solve words:

- What could you try?
- Look at the parts of the word
- It starts like _____
- It ends like _____
- What do you know that might help?
- Do you know a word like that?
- Do you know a word that starts / ends with those letters?
- Think of what the word means. Is it like another word you know?

To help students notice errors and fix them:

- That sounds right, but does it look right?
- That makes sense, but does it look right?
- It starts like that. Now, check the last part.
- You almost got that. See if you can find what is wrong.
- Try that again.
- Try that another way.

### The 44 Phonemes

Following is a list of the 44 phonemes along with the letters of groups of letters that represent those sounds.

<table>
<thead>
<tr>
<th>Phoneme (speech sound)</th>
<th>Graphemes** (letters or groups of letters representing the most common spellings for the individual phonemes)</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consonant Sounds:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. /b/</td>
<td>b, bb</td>
<td>big, rubber</td>
</tr>
<tr>
<td>2. /d/</td>
<td>d, dd, ed</td>
<td>dog, add, filled</td>
</tr>
<tr>
<td>3. /f/</td>
<td>f, ph</td>
<td>fish, phone</td>
</tr>
<tr>
<td>4. /g/</td>
<td>g, gg</td>
<td>go, egg</td>
</tr>
<tr>
<td>5. /h/</td>
<td>h</td>
<td>hot</td>
</tr>
<tr>
<td>6. /j/</td>
<td>j, g, ge, dge</td>
<td>jet, cage, barge, judge</td>
</tr>
<tr>
<td>7. /k/</td>
<td>c, k, ck, ch, cc, que</td>
<td>cat, kitten, duck, school, occur, antique, cheque</td>
</tr>
<tr>
<td>8. /l/</td>
<td>l, ll</td>
<td>leg, bell</td>
</tr>
<tr>
<td>9. /m/</td>
<td>m, mm, mb</td>
<td>mad, hammer, lamb</td>
</tr>
<tr>
<td>10. /n/</td>
<td>n, nn, kn, gn</td>
<td>no, dinner, knee, gnome</td>
</tr>
<tr>
<td>11. /p/</td>
<td>p, pp</td>
<td>pie, apple</td>
</tr>
<tr>
<td>12. /r/</td>
<td>r, rr, wr</td>
<td>run, marry, write</td>
</tr>
<tr>
<td>13. /s/</td>
<td>s, se, ss, c, ce, sc</td>
<td>sun, mouse, dress, city, ice, science</td>
</tr>
<tr>
<td>14. /t/</td>
<td>t, tt, ed</td>
<td>top, letter, stopped</td>
</tr>
<tr>
<td>15. /v/</td>
<td>v, ve</td>
<td>vet, give</td>
</tr>
<tr>
<td>16. /w/</td>
<td>w</td>
<td>wet, win, swim</td>
</tr>
<tr>
<td>17. /y/</td>
<td>y, i</td>
<td>yes, onion</td>
</tr>
<tr>
<td>18. /z/</td>
<td>z, zz, ze, s, se, x</td>
<td>zip, fizz, sneeze, laser, is, was, please, Xerox, xylophone</td>
</tr>
<tr>
<td>Phoneme</td>
<td>Graphemes**</td>
<td>Examples</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Consonant Digraphs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. /th/ (not voiced)</td>
<td>th</td>
<td>thumb, thin, thing</td>
</tr>
<tr>
<td>20. /th/ (voiced)</td>
<td>th</td>
<td>this, feather, then</td>
</tr>
<tr>
<td>21. /ng/</td>
<td>ng, n</td>
<td>sing, monkey, sink</td>
</tr>
<tr>
<td>22. /sh/</td>
<td>sh, ss, ch, ti, ci</td>
<td>ship, mission, chef, motion, special</td>
</tr>
<tr>
<td>23. /ch/</td>
<td>ch, tch</td>
<td>chip, match</td>
</tr>
<tr>
<td>24. /zh/</td>
<td>ge, s</td>
<td>garage, measure, division</td>
</tr>
<tr>
<td>25. /wh/ (with breath)</td>
<td>wh</td>
<td>what, when, where, why</td>
</tr>
<tr>
<td><strong>Short Vowel Sounds:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. /al/</td>
<td>a, au</td>
<td>hat, laugh</td>
</tr>
<tr>
<td>27. /el/</td>
<td>e, ea</td>
<td>bed, bread</td>
</tr>
<tr>
<td>28. /i/</td>
<td>i</td>
<td>if</td>
</tr>
<tr>
<td>29. /o/</td>
<td>o, a, au, aw, ough</td>
<td>hot, want, haul, draw, bought</td>
</tr>
<tr>
<td>30. /u/</td>
<td>u, o</td>
<td>up, ton</td>
</tr>
<tr>
<td><strong>Long Vowel Sounds:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. /aːl/</td>
<td>a, a_e, ay, ai, ey, ei</td>
<td>bacon, late, day, train, they, eight, vein</td>
</tr>
<tr>
<td>32. /eːl/</td>
<td>e, e_e, ea, ee, ey, ie, y</td>
<td>me, these, beat, feet, key, chief, baby</td>
</tr>
<tr>
<td>33. /iːl/</td>
<td>i, i_e, igh, y, ie</td>
<td>find, ride, light, fly, pie</td>
</tr>
<tr>
<td>34. /oːl/</td>
<td>o, o_e, oa, ou, ow</td>
<td>no, note, boat, soul, row</td>
</tr>
<tr>
<td>35. /uːl/</td>
<td>u, u_e, ew</td>
<td>human, use, few, chew</td>
</tr>
<tr>
<td>Phoneme (speech sound)</td>
<td>Graphemes** (letters or groups of letters representing the most common spellings for the individual phonemes)</td>
<td>Examples</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Other Vowel Sounds:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. /ool/</td>
<td>oo, u, ou_1</td>
<td>book, put, could</td>
</tr>
<tr>
<td>37. /öö/</td>
<td>oo, u, u_1</td>
<td>moon, truth, rule</td>
</tr>
<tr>
<td>Vowel Diphthongs:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. /ow/</td>
<td>ow, ou, ou_1</td>
<td>cow, out, mouse, house</td>
</tr>
<tr>
<td>39. /oy/</td>
<td>oi, oy</td>
<td>coin, toy</td>
</tr>
<tr>
<td>Vowel Sounds Influenced by r:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. /a(r)/</td>
<td>ar</td>
<td>car</td>
</tr>
<tr>
<td>41. /ä(r)/</td>
<td>air, ear, are</td>
<td>air, chair, fair, hair, bear, care</td>
</tr>
<tr>
<td>42. /i(r)/</td>
<td>irr, ere, eer</td>
<td>mirror, here, cheer</td>
</tr>
<tr>
<td>43. /o(r)/</td>
<td>or, ore, oor</td>
<td>for, core, door</td>
</tr>
<tr>
<td>44. /u(r)/</td>
<td>ur, ir, er, ear, or, ar</td>
<td>burn, first, fern, heard, work, dollar</td>
</tr>
</tbody>
</table>

Source: Dawn Reithaug (2002) Orchestrating Success in Reading
*N.B. This list does not include all possible graphemes for a given phoneme.