

Investigating positive classroom literacy environments: Teacher knowledge, print exposure and  
planning for instruction

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## Abstract

Investigating positive classroom literacy environments: Teacher knowledge, print exposure, and planning for instruction

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Concordia University, 2021

Reading for pleasure, also referred to as print exposure, is beneficial across the lifespan. However, the journey from illiterate to literate is not straightforward. Research has shown that young readers benefit from expert instruction, and plentiful practice. Thus, elementary school teachers are tasked with satisfying these requirements. The upper elementary years are an especially interesting area of study because at the same time as students' abilities increase, intrinsic motivation to read tends to decrease. Teachers are uniquely situated to (a) ensure that children become capable readers and (b) remain interested in reading throughout their childhood and beyond. Therefore, the goal of this dissertation was to establish how to optimally prepare teachers to help children make the transition from pre-reader to life-long reader. Study 1 investigated knowledge and ability to plan for instruction among 100 pre-service teachers before and after participating in a workshop that taught them about print exposure. In this study, two measures were created (definitions and vignettes tasks) to assess pre-service teachers' knowledge of literacy concepts related to print exposure and classroom practices related to reading. Two further ones were adapted (print exposure checklist and an instructional planning task). The workshop was successful at significantly increasing participants' knowledge of literacy concepts related print exposure, and this increase in knowledge was associated with more time allocated for students to read in the post-test instructional planning. Study 2 extended this work by implementing a similar workshop with in-service teachers. Here, 50 teachers completed the

definitions and vignettes tasks, as well as the instructional planning task before and after participating in an online professional development workshop that taught them about the formal and informal literacy activities that are critical in positive classroom literacy environments. Teachers increased their scores on the definitions task significantly after participating in the workshop, and also designated more time to Activities that Promote Reading at post-test. The goal of this study was to establish the formal and informal components of positive classroom literacy environments. The results of both studies are discussed within the context of teacher training.

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### **Contribution of Authors**

The first author of each manuscript is Stephanie Kozak who designed, and adapted the measures used in both studies, collected the data, developed the coding scheme, coded the data, conducted the analyses, and wrote the manuscripts, and the documented presented. The second author of both manuscripts is Dr. Martin-Chang, who provided guidance in all phases of experimental design, measure creation and adaptation, data analyses, and editing the presented document.

Disclosure: the data of 35 participants in Study 1 were collected within my Masters' thesis (in 2015). This manuscript has since been submitted for publication as it is presented here, with an additional 65 participants whose data were collected during my PhD. Additionally, the analyses were conducted and the manuscript itself was written during my PhD.



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# CHAPTER 1

## READING DEVELOPMENT

### **General Introduction**

It is impossible to dispute the fact that reading is a worthwhile enterprise. Indeed, one of the most enduring messages prevailing from early childhood is that reading is an invaluable habit that furthers a plethora of skills. This message is consistently and fervently backed by science, demonstrating positive effects that are wide-reaching temporally throughout different life stages (e.g., Bavishi et al., 2016; Mol & Bus, 2011; Sparks et al., 2014; Stanovich & Cunningham, 1993). It therefore stands to reason that supporting children – and adults (Alexander, 2005) – in developing an interest in, and a passion for, reading should be considered a central goal of education. In this chapter, I will review the positive effects of reading widely over the lifetime.

### **Early Childhood Literacy**

Shared storybook reading in early childhood can not only colour a child's view of reading (Baker et al., 1997; Tremblay et al., 2020), but also ease the process of reading acquisition (Lefebvre et al., 2011), as well as academic gains into elementary school and beyond (Sénéchal & LeFevre, 2001). However, shared storybook reading is only one component within the Home Literacy Environment (HLE), which refers to the formal and informal activities that occur in the home between the parent or guardian and child (Evans et al., 2000; Sénéchal & LeFevre, 2014). The informal activities predominantly include storybook reading, as well as the conversations around storybook reading (Sénéchal & LeFevre, 2001; Martin-Chang & Gould, 2012). By contrast, formal activities include tasks such as parents naming and writing letters with their children, or having children predict sounds certain letters might make. The key difference is that

formal activities have a teaching element to them, with a learning outcome, while informal activities result in incidental learning. For example, a letter naming activity between parent and child has the purpose of teaching letter names, whereas sharing a storybook might not have a specific purpose other than sharing a story, but vocabulary is an incidental learning that occurs. Or, in other words, informal activities focus on the message of the story, whereas formal activities focus on the print (Sénéchal & LeFevre, 2001).

Interestingly, these activities in the home are not correlated (Evans et al., 2000; Sénéchal & LeFevre, 2001), meaning that parents who arrange for formal teaching activities do not arrange for more storybook reading, and vice versa. This is notable because both types of activities positively impact children's reading development in the early elementary years. Frequency of storybook reading was associated with receptive vocabulary in Grade 1, whereas formal literacy activities are related to emergent literacy in Grade 1 (Sénéchal & LeFevre, 2001). Nevertheless, both contributions are important to children's longitudinal reading achievement, and thus the HLE posits an interesting framework within which to examine reading development, by accounting for formal and informal activities that are related to reading.

Children who have a favourite book by the age of 4 go on to perform better on reading measures in later childhood (Weinberger, 1996). In fact, shared book reading between adult and child shows positive relations with concurrent (Grolig et al., 2019) and later literacy skills (Tremblay, 2020), and also with language development in general (Juel, 2005; Juel et al. 2003, Robbins & Ehri, 1994). These positive relationships are in part related to the amount of low-frequency vocabulary words children are exposed to via storybook reading (Hayes & Ahrens, 1988; Robbins & Ehri, 1994; Sénéchal, 1997), but also likely associated with the amount of conversation that occurs during storybook reading (Mar et al., 2010). Suffice to say that early

experiences in the home with shared storybook reading lay a foundation for the emergence of literacy skills, reading acquisition, and later academic achievement.

Once children have successfully mastered the skill of reading, their experiences with books predict spelling, vocabulary, verbal fluency, world knowledge and general information (Cunningham & Stanovich, 1991; 1997; Martin-Chang & Gould, 2008). Indeed, an easy, successful start to reading paves the way to an increased likelihood of leisure reading (Stanovich, 1986; Sparks et al., 2014). Leisure reading, or reading for pleasure is subsumed under the umbrella of *print exposure* (Stanovich & West, 1989). While *print exposure* includes reading done within classrooms, the role that *pleasure* plays is instrumental in how much individuals choose to read in their spare time. Thus, if reading does not come easily to an individual, or is unpleasant in any way, the likelihood of that individual engaging in reading when not mandated to by external demands, decreases. But counter intuitively, although print exposure is a term reserved for leisure reading, the instruction and texts that are introduced via curricular demands can nevertheless play a significant role in supporting or deterring individuals from reading for pleasure once those demands are removed.

Research on early childhood literacy thus points to several variables within the home that factor positively into children's reading success: plentiful experiences with formal literacy activities such as letter learning and joint writing (e.g. Segal & Martin-Chang, 2018; 2019; Segal et al., 2020; Sénéchal & LeFevre, 2001), frequent experiences with informal literacy activities such as storybook reading (e.g. Baker et al., 1997; Grolig et al., 2019), and conversations around reading experiences (e.g. Hargraves & Sénéchal, 2000; Patel et al., 2020). Also, other environmental variables such as socioeconomic status, parental education, and quality of day care, have consistently been demonstrated to impact children's language, and by extension, their

literacy (Hoff, 2006). However, once children enter school, the quality of the classroom environment becomes a key player in a child's reading development (Byrne et al., 2010).

### **Reading Acquisition**

Literacy can be thought of as a continuum, with illiteracy on one end and fluent, efficient and accurate reading comprehension on the other. Some theoretical frameworks suggest that there are separate but related skillsets that must come together in order for reading to be effortless and result in successful comprehension of the text. Namely, the Simple View states that reading comprehension is the product of decoding and language comprehension (Gough & Tunmer, 1986).

Decoding is a complex process, especially in languages where the orthography is opaque, such as English, where words are often not spelled the way they sound, and they are not necessarily pronounced the way they are spelled. For example, the words “through”, “tough”, “cough”, “bough”, and “thought” all contain the same -ough grapheme that is pronounced differently in each word. This is illustrated nicely by the transcription of these words into the International Phonemic Alphabet, where one symbol represents one sound: θru, tʌf, kʌf, bæw, θʌt. Likewise, the words “ski”, “be”, “key”, “sweet”, “pea”, and “theme” all contain the same long /i/ sound, but each word uses a different spelling to make that sound. To illustrate in IPA: ski, bi, ki, swit, θim. The absence of a one-to-one relationship between sounds and spelling means that breaking the code requires expert support and guidance from teachers who understand how the English language works.

Once print is decoded into its verbal referents, students need to be able to understand each word's meaning individually, as well as the meaning of words within phrases. This is where language comprehension comes into play (Gough & Tunmer, 1986). For example, a student



needs to be familiar with the denotative definitions of the words “sweet” and “pea” as well as the term of endearment to understand the book title “Dear Sweet Pea.” Therefore, Gough and Tunmer (1986) contend that children who get off to a slow start to reading could struggle primarily with decoding, or language comprehension, or both subskills, and that it falls under the teacher’s mandate to determine which area requires support.

Thus, learning to read in English is a nuanced and time-consuming process that requires support from skilled adults, as well as plentiful opportunities to practice. While this may seem like a daunting task for students and teachers alike, decades of extensive research into reading development have established a framework of balanced literacy instruction for children (Shanahan, 2006), in which many requisite skills are exercised. A balanced literacy program comprises of instruction that touches on: phonemic awareness, phonics, vocabulary, oral reading fluency and reading comprehension strategies. In terms of Gough’s Simple View (Gough & Tunmer, 1986), if reading comprehension is the product of decoding and language comprehension, then these five pillars target both factors: phonemic awareness and phonics focus on decoding skills, while vocabulary, oral reading fluency and reading comprehension strategies have language comprehension development at their centres. Together, a balanced literacy program that is built on all five pillars serves to support students in the reading trajectories that are outlined by developmental reading theories

One such prominent theory is Ehri’s Phases of Word Reading. Here, reading acquisition is said to develop in *phases*. Ehri was particular about the term *phase* because she argued that reading development is fluid and readers can be in more than one phase at a time; readers will also regress if the text is too difficult (Ehri, 2015). Children begin in the “pre-alphabetic phase.” Here, they may exhibit some behaviours that look like reading, but have very little awareness of

the alphabetic principle (the understanding that letters in writing represent words in spoken language). Once some alphabetic knowledge is acquired, children progress to the “partial alphabetic phase.” Here, they begin to apply the knowledge of the alphabet to reading and may be able to decode short, simple words. However, in this phase, they are overly reliant on the first and last letters of words and often confuse similarly spelled words such as “paint” and “pant”, and similarly formed letters such as “p” and “q.” In the “fully alphabetic phase”, children have begun to form complete connections between the letters in words and the sounds in spoken language (even when the sound is silent such as the “i” in “paint”). They are quite capable readers but not yet very efficient, often still relying on letter-by-letter decoding to decipher unknown words. In the final "consolidated alphabetic phase", efficiency increases because children have learned to group common spelling patterns together and are now reading words in larger chunks rather than letter by letter (e.g., the ‘ai’ vowel team and the ‘nt’ blend in the words above). Thus, with expert code-based instruction at each level, children gradually acquire efficient reading skill. But importantly, Ehri (2015) also noted the role played by plentiful reading practice. Indeed, word repetitions gained by reading experience moved children through the pre-alphabetic to the consolidated phases. Therefore, teachers also needed to encourage children to read.

The view of progression from novice to expert is mirrored in Alexander’s Lifespan Developmental Perspective (Alexander, 2005). Alexander, however, breaks the expected reading trajectory into three possible areas: knowledge, interest and strategies. These separate areas offer teachers a more nuanced view of where to intervene when children struggle with reading acquisition. Regarding knowledge, Alexander (2005) states that as knowledge of reading (i.e., reading skill) increases, so will general knowledge about the world. This is supported by

literature on print exposure that demonstrated a significant positive correlation between reading volume and general knowledge (Stanovich & Cunningham, 1992; 1993).

Regarding interest, Alexander (2005) posits that initially, a strong situational interest in a specific subject or story is necessary for children to engage in this new skill of reading.

Situational interest relies on intense, temporary, subject-specific interest. It is different than individual interest, which is a long-lasting investment in the act of reading that will endure when the subject is less exciting. Ideally, when situational interest levels off in middle childhood, individual interest in the pursuit of reading takes over. For example, a young child might be inspired to pick up books about dinosaurs because they want to learn about a brachiosaurus (situational interest). In the best case, engagement with books about dinosaurs will transfer to engagement with books in general, and will culminate in a long-term interest in reading in general (individual interest). However, as children progress through elementary school, the nature of in-school reading shifts; the fourth-grade slump is a well-documented phenomenon that children experience in the upper elementary grades, which where children are offered less choice in reading materials, and the majority of in school reading becomes mandated by the teacher (Chall & Jacobs, 2003). This is supported by the literature on reading motivation, which will be discussed below (e.g., Wigfield & Eccles, 2002).

Finally, at the same time as a shift in interest is happening, Alexander's (2005) ideal trajectory of reading development also sees a shift from surface-level text processing strategies to deep processing strategies as readers mature. Here, surface-level strategies that need to be modeled or explicitly taught by teachers include re-reading a text to ensure comprehension, slowing down when the text is complex, or omitting difficult words and relying on context to access the meaning of a text. By contrast, deep processing strategies go beyond the words on the

page and involve more sophisticated tasks such as connecting texts to other texts. Students also need guidance from knowledgeable teachers when they reach this stage in order to understand inferential information and figurative meanings proffered in texts. Therefore, when children struggle to comprehend, Alexander's (2005) framework offers points of entry for intervention: is the text not interesting? Is the child relying exclusively on surface strategies? Is the child struggling because of decoding skills and omitting difficult words?

The overarching theme that unites Gough's Simple View of Reading (Gough & Tunmer, 1986), Ehri's Phases of Word Reading (Ehri, 1995; 2005; 2015), and Alexander's Lifespan Developmental Perspective (2005) is that learning how to read is not a linear or easy process. The road to becoming literate is not as simple as knowing the 26 letters of the alphabet. Further, it can be concluded that despite the complexity of reading development, reading acquisition follows a trajectory that eases children gradually into literacy, aided by knowledgeable adults who guide the way. The importance of getting an early and successful start in reading has been documented (e.g. Cunningham & Stanovich, 1997), not merely because skilled readers perform better in school, but also reading for pleasure is contingent on successful reading acquisition.

As posited by Bandura's social learning theory, children learn from observing the behaviours of social models, especially those perceived to be in higher standing, such as parents or teachers (Bandura, 1977). Thus, according to Bandura, parents and teachers play a pivotal role in learning how to read. This role can be positive but also negative: adults who enjoy reading will model a different outlook on reading than those who do not. In early childhood, parents who do not read themselves or to their children model that reading is not important or pleasurable; when children enter school, teachers act as models, too. Conversely, adults who are enthusiastic and transparent about their reading interests will model reading as a desirable behaviour.

The consequences of having negative models can carry into adulthood and are reflected in reading research. Unpleasant reading experiences in the elementary and secondary school years are found to negatively impact reading habits of adults (Applegate & Applegate, 2004; Applegate et al, 2014; Martin-Chang et al., 2021; Morawski & Brunhuber, 1995; Nathanson et al., 2008). In sum, teachers play a pivotal role in leading children towards reading for pleasure.

## CHAPTER 2

### PRINT EXPOSURE ACROSS READING DEVELOPMENT

#### **Print exposure**

Print exposure refers to the amount of reading done over the lifetime. When it is happening outside of the external dictates of school and work, it is sometimes referred to as reading for pleasure (Kozak & Martin-Chang, 2019; Stanovich & West, 1989). It should be noted that in-school reading can also significantly contribute to print exposure (e.g., Allington, 1983), and as children's reading skills increase, interest and motivation become potent predictors of print exposure all told (Wigfield & Guthrie, 1997). Some studies refer to it as leisure reading (e.g., Torppa et al., 2020), reading volume (e.g., Sparks et al., 2014), or even elective reading when discussed in the context of other elective activities (Christodoulou et al., 2017). However, all uses of these terms refer to the amount of reading individuals engage in over the lifetime. The benefits of print exposure have been widely established: people who read more tend to have superior reading skills (Martin-Chang & Gould, 2008; Martin-Chang et al., 2019), superior spelling skills (Cunningham & Stanovich, 1991; Rossi et al., 2019), they tend to perform better in academic settings (Cunningham & Stanovich, 1997), have larger vocabularies (Ocal & Ehri, 2017), larger volumes of declarative knowledge (Stanovich & Cunningham, 1993), better socio-emotional skills (Mar et al., 2006; Mar et al., 2010), and these effects are also seen in neurological abilities over time (Bavishi et al., 2018; Goldman & Manis, 2013). Thus, reading has benefits that reach far beyond reading skill into many aspects of everyday living.

Author Recognition Tests (ART) have remained the most enduring proxy of print exposure; in this task, participants are asked to check names that they believe to be authors among a longer list that also includes foils. Foils are names of people who are not authors, and

their inclusion serves to detect guessing using signal detection logic. Stanovich and West (1989) initially worked with an undergraduate population and found that individuals who scored higher on the ART demonstrated superior reading and spelling skills than those who read less. A similar measure, called the Title Recognition Test (TRT) was developed analogously to the ART, where participants are asked to select children's storybook titles, rather than author names. The ART and TRT have since been updated and adapted by various studies to reflect geographical location of participants (Rodrigues et al., submitted; Stainthorp, 1997), or genre (Kidd & Castano, 2013; Kozak & Martin-Chang, 2019; Mar et al., 2006; Mar & Rain, 2010, Martin-Chang et al., 2019, Martin-Chang et al., 2021), as well as to reflect contemporary publications (e.g. Grolig et al., 2020; Tremblay et al., 2020).

Other common measures of print exposure include self-report diaries (Acheson et al., 2008), rating scales (McKool & Gespass, 2009), or counting books in a home library (Sikora et al., 2019). Some studies use additional measures to account for the role that pleasure plays in print exposure. For example, Spear-Swerling et al., (2020) asked participants to list their favourite authors and books, positing that those who take more pleasure in reading are better positioned to name favourite titles and writers. In other studies yet, participants are asked to complete Activity Preference Questionnaires to determine how often reading is chosen over another popular leisure activity in a forced-choice task (e.g., Cunningham & Stanovich, 1997; Tremblay et al., 2021). However, the ART and TRT have remained the most pervasive measure because checklists circumvent social desirability bias and can be adapted to account for differentiation between primary print exposure (e.g., the act of having read a specific title) versus secondary print exposure (e.g., having heard of an author; see Martin-Chang & Gould, 2008).

### **Print exposure across the lifespan**

Initially, print exposure was studied predominantly with adults because age is a significant correlate of print exposure: the more lifetime experiences an individual has, the more of a lifetime they have had to read (Stanovich et al., 1995). However, over the last three decades, benefits of reading for pleasure have been demonstrated at all ages throughout the lifespan. For example, Mar et al. (2010) found that four-year-old's exposure to storybooks via parents predicted theory-of-mind development. Aram and Aviram (2009) found that children whose mothers purposefully chose high-quality storybooks were rated as being more empathetic. Interaction with storybooks seems to positively impact children's vocabulary (Cunningham & Stanovich, 1991), predict reading skills (Cipielewski & Stanovich, 1992), account for inferential skills (Grolig et al., 2020), and indicate positive impacts on academic performance (Cunningham & Stanovich, 1997). In other words, children who have rich and frequent experiences with reading before they learn how to read go on to show advantages over children who have had fewer experiences to read. As children acquire reading skill, exposure to rich, immersive literature strengthens this relationship.

Leisure reading remains critically related to reading performance and academic performance in the high school years. Martin-Chang et al. (2019) found that print exposure, specifically familiarity with children's and young adult fiction was positively related to reading speed in high schoolers. Mol and Jolles (2014) found that reading enjoyment, not necessarily the act of reading, but simply having a favourable outlook on reading positively predicted school performance in secondary school. In a different study, Martin-Chang et al., (2021) found that having a positive attitude towards reading can impact verbal abilities, and that while this relationship is mediated through how much individuals read, it is also found as a direct



association. Interestingly, when participants had negative outlooks on reading, they frequently cited uninteresting reading instruction in the school years as a reason (Martin-Chang et al., 2021). Taken together, the research cited thus far indicates that experiences with reading before and concurrent with school have lasting effects on reading habits in adulthood. This makes a positive school literacy environment instrumental in developing recreational reading habits.

Once the influence of schooling is past (or once schooling is finished), though, the primary reason adults might choose to read is because they are inherently drawn to it. In fact, Merga (2017) found that avid adult readers reported many reasons for reading including, viewing life from different perspectives, being entertained, seeking escape and/or companionship. The effects of reading into adulthood and old age are universally positive. Reading for pleasure has been associated with a protective effect against dementia (Vermuri & Mormino, 2013), and further, reading seems to stave off cognitive decline in old age (Wilson et al., 2013), and may even be related to longevity (Bavishi et al., 2018).

### **Print exposure and reading instruction**

There seems to be a conflict of interest when discussing reading for pleasure and reading instruction simultaneously: while reading instruction is generally extrinsically motivated (stemming from within four walls of the classroom), reading for pleasure is intrinsically motivated. And though it is true that leisure reading refers to out of school reading, the link to in-school reading is irrefutable. For most children, learning to read requires explicit instruction (Moats & Tolman, n.d.). As stated above, some of this instruction begins in the home and includes informal activities such as storybook reading, exposure to language, as well as formal literacy activities such as teaching the letter names and sounds and participating in joint writing activities (see Sénéchal & LeFevre, 2001; Segal & Martin-Chang 2019, Segal et al., 2018).

However, often the process of breaking the code of written language continues within a school setting at the hands of an experienced teacher (Moats, 2009). Children do not enter the classroom on even footing; some have had more exposure to reading within the home literacy environment than others (Hoff, 2006), therefore one important mandate of reading teachers is to level the playing field by providing expert instruction for all students. Furthermore, even those students who were raised in home literacy environments that were rich with print require systematic phonics instruction to reach their maximal potential (Sénéchal & LeFevre, 2001).

Support for this notion comes from a longitudinal study by Sénéchal and LeFevre (2001). They worked with 168 children and their parents over five years and documented how frequently parents read to their children, as well as how often they reported teaching their children literacy concepts. The children's reading skills were assessed in Grade 1, and Grade 3. Four discrepant groups emerged: students whose parents reported frequent teaching of literacy concepts and often read to them (high teaching – high storybook reading); children whose parents reported spending more time with teaching activities but less time with storybook reading (high teaching – low storybook reading); parents who reported spending less time teaching but more time with storybook reading (low teaching – high storybook reading); and those who reported not spending much time on either teaching explicit literacy concepts or storybook reading (low teaching – low storybook reading). Unsurprisingly, when assessed in Grades 1 and 3, children in the high teaching – high storybook reading group performed the best on reading assessments, whereas those in the low teaching – low storybook reading scored the lowest. However, an interesting pattern emerged in the two discrepant groups. The children who came from the group with more teaching (high teaching – low storybook reading) initially out-performed the group with more storybook reading (low teach – high storybook reading) in Grade 1. But by Grade 3, the children

who had more storybook reading had reached parity with the group who had been both highly taught and read to (high teach – high storybook reading). This suggests that while all home literacy experiences are important the amount of storybook reading remains a significant predictor of reading achievement. In other words, while teachers can make up for a difference in formal learning experiences that children might have had at home, years of plentiful storybook reading remain critical.

Regardless of why the reasons children struggle at the onset of learning to read, remediating at-risk readers is critical because struggling readers in early grades go on to read less for pleasure (Cunningham & Stanovich, 1997). This phenomenon is known as the Matthew effect (Stanovich, 1986). Longitudinal and retrospective studies support the notion that if reading acquisition is arduous, individuals are unlikely to pick up reading as a leisure habit (Cunningham & Stanovich, 1997; Juel, 1988; Rodrigues et al., submitted; Sparks et al., 2014; Torppa et al., 2020). Stanovich (1986) describes this as *rich get richer, poor get poorer*: *rich* children are those who easily develop reading skill and go on to choose to read because it is easy. By contrast, the *poor* are those who struggle when learning how to read, perhaps because they do not receive the support, practice or time they require (Juel, 1988). The likelihood of children electing to read when it is difficult and frustrating is small. Therefore, the gap between *rich* and *poor*, which is initially small, continues to widen as one group continues to get *richer* in reading skill and experience, and the other remains *poor*. By this logic, the inverse can also be supposed: if reading acquisition is fun and motivating, children are more likely to read for pleasure. Therefore, the link between reading instruction and print exposure is bidirectional because good reading instruction paves the way leisure reading (print exposure), and leisure reading improves in-school success (Torppa et al., 2020).

It should be noted that while a relationship of reciprocal causality has long been assumed between reading experience and reading ability (see Mol & Bus, 2011 for review), the directionality of the relationship between how *well* children read and how *much* they read has recently been the subject of new investigation. Recent research suggests that the relationship between reading development and leisure reading changes over time (Torppa et al., 2020). In a longitudinal cross-lagged model study with 2,525 Finnish students, Torppa and colleagues (2020) found that in Grades 1-3, relationships between reading ability (reading comprehension and reading fluency) suggests that reading ability predicts the amount of leisure reading children partake in. However, in the later grades the directionality shifts, suggesting that the amount of leisure reading predicts reading comprehension. In other words, when students are young, limited decoding abilities constrain how often children choose to read in in their free time. But when children do read, it predicts reading comprehension skills.

Similar findings were reported in a more recent study. van Bergen and colleagues (2020) were interested in whether reading volume results in superior reading skill, or conversely whether reading skill influences reading volume. In a longitudinal study that followed 200 children from ages 5 to 15, children were assessed on prereading skills, reading fluency, reading comprehension, and print exposure (via parental rating scale). As Torppa et al., (2020) found, the results in this study revealed that in early childhood, a directionality moved from reading skill to later reading comprehension and reading volume. In other words, reading fluency and comprehension in the early grades impacts how much children read. However, after third grade, it was reading volume that predicted reading comprehension.

Thus, as Stanovich (1986) has suggested, it is unlikely for children to freely engage in an activity that is laborious, as reading is before the skill is fully consolidated. However, as the skill

consolidates, the amount of leisure reading individuals engage in predicts reading comprehension. These findings are in line with the guidelines to reading instruction suggested by the National Reading Panel (NRP; Shanahan, 2006) in that early elementary instruction should place an emphasis on activities that consolidate reading skill with a side of reading for enjoyment. These findings also support the importance of promoting leisure reading in upper elementary grades, while also maintaining explicit instruction about the mechanics of print (Kim et al., date).

Print exposure measures how much reading is done for pleasure. This often falls outside of school hours; nonetheless, teachers play a pivotal role in its development. Teachers' mandates are thus clear and extend beyond elementary school. Beginning with teaching students to decode using code-based instruction, and identifying reading difficulties when they arise, skilled teachers are pivotal in children's reading acquisition. Next, they must know how to structure interesting and engaging classroom activities, select interesting books, and model an interest in reading for pleasure (Bandura, 1977). These elements contribute to positive literacy experiences in school, when children learning how to read also feel autonomous and competent and connected to the reading materials, their peers and their teachers (Ryan & Deci, 2000).

Absence of any or all of these elements are keenly felt concurrently and into adulthood: teachers who show very little interest in and do not model an excitement for reading are perhaps not able to make reading interesting for children (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008). Consequently, adults who harbour negative feelings towards reading such as disinterest or disengagement often cite boring school instruction as the source (Applegate & Applegate, 2004; Martin-Chang et al., 2021). Thus, teachers have the power to build up but also tear down tomorrow's readers.

## Reading Motivation

As discussed above, teachers are instrumental in supporting the mastery of the mechanics of reading, but they are equally important in instilling and maintaining the motivation to read. Children who struggle with reading are especially susceptible to the negative effects of lacking reading motivation (Gilson et al., 2018). The consequences of lacking motivation to read carry forth into adulthood (Martin-Chang et al., 2021). In the worst case, a reading trajectory that starts off poor and remains poor leads to barely functional literacy skills in adulthood; this translates into struggling with everyday tasks such as not being able to read prescriptions or bus schedules (Vágvölgyi et al., 2016). But the consequences are also more nuanced than that. Print exposure carries with it a plethora of benefits, as outlined above. But reading is also a skill that requires exercise. As the CBC put it, “reading is not like riding a bicycle” (2021): reading skill can diminish over time if not practiced.

Adults who do not read for pleasure often cite negative school experiences as a primary reason (Applegate & Applegate, 2004; Applegate et al., 2014; Martin-Chang et al., 2021; Morawski & Brunhuber, 1995; Nathanson et al., 2008). Specifically, adults remember boring texts, unenthusiastic teachers and uninteresting activities when discussing or rating their current reading inclinations (Applegate & Applegate, 2004; Martin-Chang et al., 2021). Interestingly, these incidences reflect the core tenets self-determination theory: autonomy, relatedness and competence (Ryan & Deci, 2000). In a more nuanced view of intrinsic motivation, self-determination theory in the context of reading motivation posits that for children to feel motivated to read, their needs for autonomy, competence and relatedness must be successfully met. For example, instruction that does not allow for choice of reading materials might result in the use of “boring books”. Similarly, disengaged teachers who fail to connect with students via

the chosen books, or do not support students in connecting with book and other readers might be failing to meet the needs for relatedness. Consequently, lackluster classroom instructions might result in deterring students from feeling motivated to read.

The concept of addressing intrinsic motivation within a classroom environment might seem counterintuitive, considering that classroom assignments, or teacher mandated reading assignments are, by definition, not intrinsically motivated because they are completed at the behest of someone else (Ryan & Deci, 2000). However, self-determination theory posits that not all extrinsic motivation is the same. By categorizing extrinsic motivation into subcomponents that exist along a spectrum, Ryan and Deci (2000) suggest that there are actions teachers can take to move their students along this spectrum to something that is closer to intrinsic motivation than extrinsic motivation. Specifically, meeting needs for autonomy, competence and relatedness can result in more positive feelings about reading. This is crucially important especially in upper elementary school, when intrinsic motivation to read begins to decline (Wigfield & Eccles, 1994). Thus, it is vital to recognize that reading instruction needs to support motivation, and not suppress it.

### **Summary**

In sum, the research reviewed here provides an overview of the complexity of reading acquisition, the importance of being a reader, and how motivation plays an important role, once skill has been acquired. The journey of becoming a reader is a long one that begins in the HLE (Sénéchal & LeFevre, 2001), where a warm, nurturing environment that celebrates stories and reading can set children on an advantageous path to literacy. Once children enter the school system, the teacher takes on the responsibility of ensuring that all children successfully learn how to read, while navigating a complex language system, and being sensitive to the different

processes of reading developing (Ehri, 2015; Gough & Tunmer, 1986). The importance of mastering reading is clear, and it reaches far beyond the four walls of the classroom: children who read well are likely to read more (Stanovich, 1988), and those who read more perform better in school (Sparks et al., 2014), and show advantages in many areas, from linguistic ability (Martin-Chang et al., 2021), to socioemotional ability (Kozak & Recchia, 2018; Mar et al., 2006), to physical health and well-being (Bavishi et al., 2018; Wilson et al., 2013). This, it is of utmost important that teachers are well-trained in creating environments that support not just the skill of, but also the love for reading.



## CHAPTER 3

### TEACHERS' READING RELATED KNOWLEDGE

#### **What is teacher knowledge?**

Teachers' reading related knowledge (RRK) has been the subject of much academic scrutiny. Generally speaking, it would be accurate to say that the more teachers know, the better their students fare. However, sweeping statements such as these seem to oversimplify the knowledge base that elementary school teachers are expected to possess in order to excel at their jobs. Elementary school teachers are not only tasked with being able to teach a large age group, from kindergarten through Grade 6 in Eastern Canada, for example, but they are also required to teach across all subjects: math, language arts, social studies, science, and more. An examination of the role teacher knowledge plays in all subject areas is beyond the scope of this dissertation, but in this chapter, I will outline the role of teacher knowledge in reading.

The science of reading has been the subject of much investigation. Despite years of empirical research and initiatives to train teachers about the science of reading (Moats, 1994, 2014), reading rates in North American children remain concerning (NCES, 2019). In fact, reading rates have declined in the last years (NCES, 2019). With the rise of standardized testing in the 1990s and early 2000's, the National Reading Panel (NRP) was established in order to provide a comprehensive framework for reading teachers (Cunningham & O'Donnell, 2015). The NRP synthesized the academic research into five pillars of balanced literacy instruction (i.e., phonemic awareness, phonics, fluency, vocabulary, and comprehension strategies) with the mandate that elementary school teachers should provide evidenced based classroom instruction in each of these areas.

### **Phonemic awareness and teacher knowledge**

Phonemic awareness is defined as the ability to hear and manipulate sounds in words (Shanahan, 2006). This auditory skill is the basis for learning to read. Teacher knowledge of phonemic awareness has been a periodic subject of investigation. Moats (1994) described phonemic awareness as the “missing foundation in teacher knowledge” (p. 81), and reiterated these findings twenty years later (Moats, 2014). The research on teacher knowledge of phonemic awareness is fairly consistent in its findings: teachers generally achieve low scores in measures such as phoneme counting, phonemic segmentation, or identifying irregular words (Bos et al., 2001; Cheesman et al., 2009; Cunningham et al., 2004; McCutchen et al., 2002; Moats & Foorman, 2003; Podhajski et al., 2009; Spear-Swerling & Brucker, 2003; Washburn et al., 2011).

However, the research also indicates that teachers can be taught how to improve their explicit instruction of phonemic awareness, and when this knowledge is implemented in the classroom, their students fare better (McCutchen & Berniger, 2000; McCutchen et al., 2009; Piasta et al., 2009; Podhajski et al., 2009; Purvis et al., 2016). Thus, the importance of teacher knowledge about basic language constructs as they relate to phonemic awareness and teaching emergent readers is well-documented, as is how to improve that knowledge, and that improving the knowledge also improves students’ reading outcomes.

### **Phonics and teacher knowledge**

Phonics refers to instruction that supports children in connecting the sounds in speech (phonemes) with letters in print (graphemes; e.g., Goswami, 1993). As Gough’s Simple View of reading illustrates, reading comprehension requires that children know how to map their knowledge of spoken language and sounds (language comprehension) to letters in print (decoding; Gough & Tunmer, 1986). In some languages, such as Hebrew or Finnish, this

relationship is straight forward, and children quickly learn that one sound is made by one letter, and one letter only makes one sound. This is not the case in English, which is why phonics instruction must be explicit and requires expert teachers. This expertise is of critical importance when early readers show any sign of struggle (Washburn et al., 2011), and require additional help in breaking down this opaque relationship between sounds and letters in English.

Binks-Cantrell et al., (2012) found that knowledge of phonics includes aspects of language such as knowing when to use a “soft c”, for example, or knowledge of syllable types (e.g., open syllables, closed syllables, final stable syllables, r-controlled syllables). When teachers are knowledgeable in phonics, it helps smooth children’s transition from being an expert of spoken language to mastering written language. Similar to the research in teacher knowledge of phonemic awareness, knowledge levels that are often low can be increased and this knowledge is reflected in student outcomes (e.g., Podhajski et al., 2009) (Washburn et al., 2016).

### **Oral reading fluency and teacher knowledge**

Oral reading fluency is the ability to read text with accuracy, speed and prosody (Shanahan, 2006). In other words, reading fluency is assessed by listening to children read aloud and noting how accurate they are, if the speed is adequate, and if the words have the meaningful intonations of speech. Fluency is important because it is considered an indicator of general reading competence. It is reliant on error-free and speedy decoding, as well as comprehension (Fuchs et al., 200). Written words cannot be assigned correct prosody if they are not understood, and words within a sentence cannot be phrased together properly if decoding is halting and slow. Thus, oral reading fluency is an important skill and a significant benchmark in reading acquisition. Similar to phonics and phonemic awareness, teacher knowledge of reading fluency is positively related with student achievement (Lane et al., 2008) Van den Hurk et al. (2017) also

found positive, albeit small, effects of teacher knowledge of reading fluency on students' reading fluency.

### **Vocabulary and teacher knowledge**

Vocabulary can be measured as receptive or expressive: receptive vocabulary refers to the words one understands when they are spoken, whereas expressive vocabulary refers to the words one can correctly use (e.g., Sénéchal, 1997). In reading research, vocabulary is also examined in terms of breadth (how many words one knows) and depth (how many ways one can use a word; Ouellette, 2006). Breadth and depth of receptive and expressive vocabulary seem to relate differently to reading development. For example, breadth of receptive vocabulary (how many words a child understands when they are spoken to them) predicts reading development, whereas expressive vocabulary breadth (how many words a child knows) is related to word recognition, and expressive vocabulary depth (how many ways a child can use a given word) predicts reading comprehension (Ouellette, 2006)

As such, vocabulary presents an interesting area of study within teacher knowledge because of the many roles it plays in reading development. Gough's Simple View of Reading contends that vocabulary is one of the two components in language comprehension (vocabulary and background knowledge), and that reading achievement is contingent on language comprehension (Gough & Tunmer, 1986). Children enter school with wide variance in vocabulary (Baker et al., 1995), and this is for a number of possible reasons, such as parental levels of education, SES, quality of daycare, and multilingualism, to name some (Hoff, 2006). But notably, one significant predictor of children's vocabulary breadth is storybook reading (Sénéchal et al., 1996). In other words, children whose parents read to them frequently tend to have larger vocabularies than those whose parents do not read to them as often.

However, once reading has been successfully acquired, reading amount predicts vocabulary (Cunningham & Stanovich, 1991). The relationship between vocabulary and reading is reciprocal but depending on where a child is in their reading development, the weight of each variable changes (Gough et al., 1996). Teachers are thus helped by the knowledge of how to support children's vocabulary development, which in young children includes storybook reading (Sénéchal et al., 1996) and in older children includes reading for pleasure (Cunningham & Stanovich, 1991). Further, teachers must know that repeated exposures of a word are necessary to retain the meaning over the long-term (Beck & McKeown, 2007; Nagy et al., 1987).

As students get older, vocabulary learning can be furthered by being taught specifically about morphology and etymology. Morphology refers to the units of meaning that make up words (e.g., Washburn & Mulcahy, 2018). For example, while "ice cream" might be made up of two words, it is one morpheme: a bowl containing "ice" cubes and heavy "cream" will be inherently unsatisfying to someone who has asked for a bowl of "ice cream". Knowledge about morphology and etymology can help children with spelling and reading by offering anchor points from which to work, especially when readers struggle. Examining teacher knowledge of basic language constructs, Washburn et al. (2011) found that teachers scored lowest on questions assessing knowledge of morphology. Thus, teacher knowledge of morphology is firstly, lacking, and secondly, necessary for teaching vocabulary, especially to struggling readers.

### **Comprehension strategies and teacher knowledge**

Successful reading comprehension requires reading and understanding a text (Shanahan, 2006). As reviewed above, successful reading comprehension requires both an understanding of language, as well as skilled decoding (Gough & Tunmer, 1986). Students gradually acquire comprehension strategies that become more sophisticated as the text becomes more complex

(Alexander, 2005). Most frequently, teachers use questioning, summarization, and prediction in their classrooms (Ness, 2010), but it is important for teachers to also consider their students' interest, because as depicted by Alexander's Lifespan Developmental Perspective (Alexander, 2005), children's specific interest in text is a necessary part of reading development. When reading is still difficult because it has not yet been mastered, an engrained interest in a subject can act as a catalyst (Alexander, 2005). Furthermore, uninteresting activities can leave long-lasting negative impressions on reading self-concept (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al. 2008).

### **Print exposure and the Five Pillars**

Considering then, the literature reviewed thus far, it is clear that while the five pillars of balanced literacy instruction cover skill subsets of reading, each pillar can be exercised through print exposure. Before children learn how to read, print exposure via storybook reading predicts phonological skills, which includes phonemic awareness (Cunningham & Stanovich, 1990). Regarding phonics, print exposure predicts spelling in children (Cunningham & Stanovich, 1991), and more recent research has found that adolescents who read more YA fiction are better spellers (Martin-Chang et al., 2019). Further, people who read more for pleasure are faster readers, indicating better reading fluency (Martin-Chang & Gould, 2008; Martin-Chang et al., 2019). Finally, recent work has elucidated the relationship between reading comprehension and print exposure, indicating that while comprehension might initially predict print exposure, this relationship reverses by Grade 3, when print exposure predicts reading comprehension (Torppa et al., 2020; van Bergen et al., 2020). It therefore stands to reason that teachers, who must be knowledgeable about all these skill subsets of reading in order to structure balanced literacy instruction programs, would be greatly helped in learning about the benefits of print exposure.

However, print exposure remains understudied as a component of teacher knowledge (Kozak & Martin-Chang, 2019).

### **Researching teacher knowledge**

The way teacher RRK is examined in extant literature varies. In some works, content knowledge is examined within or contrasted to general pedagogical knowledge (Clark et al., 2017; Van Den Hurk et al., 2017). Other investigations examine how teacher knowledge interacts with teachers' life experiences, attitudes, self-perceptions, or teaching beliefs (Applegate & Applegate, 2004; Applegate et al., 2014; Bos et al., 2001; Cunningham et al., 2004; McKool & Gespass, 2009; Morawski & Brunhuber, 1995). In other work yet, teacher knowledge is examined through classroom instruction, either via planning for instruction activities (Cunningham et al., 2009), or classroom observations (Griffith et al., 2015). It is therefore fair to say that teacher knowledge is a complex construct.

An overarching theme in the literature is that when teacher knowledge is lacking, student performance is adversely affected, and unfortunately, teacher knowledge is often low (Cunningham et al., 2004; Moats, 2009, 2014; Moats & Foorman, 2003; Pittman et al., 2020; Spear-Swerling et al., 2005). Insufficient levels of teacher knowledge carry important implications for teacher training programs. Specifically, Binks-Cantrell et al. found that the Peter effect (one cannot give what one does not have; Applegate & Applegate, 2004) is not just true for a passion for reading, it is also true in teacher training: professors who train future teachers cannot supply knowledge because they, in fact, do not possess it (Binks-Cantrell et al., 2012). Thus, low levels of teacher knowledge may in fact, be in part related to insufficient training on part of teacher educators (Joshi et al., 2009a).

The most common approach to studying teacher knowledge is to assess constructs of RRK, and upon finding low levels, make recommendations for teacher training programs. Moats (2009, 2014) has been a champion for adapting teacher training to include rigorous research-based practice, and this has been echoed by many others (Joshi et al., 2009b; Binks-Cantrell et al., 2012). And yet, there seems to be pervasive incongruity between strategies developed by researchers and how that information reaches teachers (Joshi et al., 2009a, 2009b; Moats, 2009, 2014). For example, knowledge of morphology has been the subject of research for over 30 years (e.g., Tyler & Nagy, 1989), and is considered important in teaching especially struggling readers, and yet, teachers still struggle with morphological awareness (Washburn & Mulcahy, 2019). Thus, an important question is: how is scientific research reaching teachers?

### **What do teachers need to know?**

It is widely accepted that getting off to an early and successful start in reading is predictive of later reading skills, and later academic performance in general (Cunningham & Stanovich, 1997; Mol & Bus, 2011; Sparks et al., 2014). Therefore, high quality classroom education, especially in the early years, is "the single best weapon against reading failure," (Snow et al.1998, p. 343). This highlights the importance of having teachers that are trained as professionals. However, there still seems to be some question over how teachers need to be trained in order to excel.

One commonly used measure of teacher knowledge is the Informal Survey of Linguistic Knowledge (Moats, 1994; Moats & Foorman, 2003; Washburn et al., 2015). This survey assesses knowledge of basic language constructs such as phonics knowledge, phonemic and morphemic awareness, and the related terminology, and was adapted over the years in order to measure RRK in teachers from kindergarten to Grade 3. Almost ten years after its original conception, the



researchers were able to identify the essential concepts that were continuing to elude teachers. Most notable were the enduring difficulties in differentiating speech sounds from letters, and spelling conventions. Speaking 20 years after the seminal study in 1994, Moats (2014) argued that teacher education programs are still failing their students, and that many teachers have either been trained insufficiently, or lack the incentives to learn more, or even are blithely unaware of what they do not know. Thus, teacher knowledge has endured as an area of inquiry within reading research.

Cunningham and colleagues (2004) worked with 722 kindergarten to second grade teachers, and not only examined RRK in terms of basic language constructs, but also looked at familiarity with storybooks as a part of teacher knowledge. Importantly, they also looked at the difference between experienced teachers and novice teachers. Findings showed that novice teachers scored higher on measures of phonemic awareness and explicit phonics, but no other differences were observed. This suggests that training in the recent years might have improved. However, no other differences between novices and experienced teachers were observed.

Cunningham and colleagues (2004) also added an interesting aspect to the literature by investigating knowledge calibration, the metacognitive skill of assessing one's own levels of expertise. In addition to completing tasks that assessed levels of knowledge in the three domains, teachers were also asked to complete self-perception measures, where they rated their ability to teach different concepts, such as phonemic awareness. Calibration of knowledge was evaluated by analyzing self-perceptions in relation to scores on the knowledge measures. Results indicated that teacher knowledge in all three domains was quite low, but strikingly, the teachers rated their knowledge to be higher than it was, suggesting a poor calibration of knowledge. This adds

another dimension to the literature on teacher knowledge: beyond initial teacher training, if teachers are unaware of what they do not know, how likely will they be to learn it?

Being able to teach the skills outlined by the NRP (phonemic awareness, phonics, vocabulary, oral reading fluency, comprehension strategies; Shanahan, 2006) is one crucial mandate of elementary school teachers, yet Cunningham et al., (2004) also identified familiarity with storybooks as part of teacher knowledge. This was supported by Kozak and Martin-Chang's study (2018), where teachers' own reading habits were reflected in teacher knowledge, and instructional approaches (Martin-Chang & Kozak, 2018; see also McKool & Gespass, 2009). Excellent teachers have a strong knowledge background as well as an interest and passion in what they teach (Schiefele et al., 2013; Schiefele & Schaffner, 2015). This is perhaps most apparent when knowledge is examined in conjunction with classroom instruction.

For example, Piasta and colleagues (2009) worked with 42 first grade teachers to investigate the role of instruction in teacher knowledge. They wanted to determine whether teacher knowledge directly affected student outcome scores, or whether the effect was mediated through instruction. In other words, is teacher knowledge enough or does the ability to craft expert instruction also play a role in student achievement? Piasta et al. (2009) assessed teacher knowledge both with surveys and three classroom observations over a year. The results indicated that, indeed, neither knowledge, nor time spent on explicit decoding activities directly predicted children's word identification scores; rather, it was the interaction between knowledge and classroom instruction that predicted students' gains. Importantly, this study also found that if teachers provide poor code-based instruction, their students will suffer. In other words, even if a teacher understands that code-based instruction is important, if they are not knowledgeable in the

content, the effect of being subjected to inaccurate teaching is detrimental to student achievement.

In a study titled “Are teachers listening?”, Bursuck and colleagues (2003) surveyed 549 kindergarten and first grade teachers about whether they were aware of recent research findings related to children and their reading development. In this survey study, the teachers indicated that they were aware of the importance of explicit code-based instruction, and agreed that literacy programs need to be balanced. Participants also agreed that phonemic awareness, phonics, fluency and comprehension were key aspects of literacy instruction, suggesting that the content of research initiatives such as the NRP were reaching them. However, Bursuck and colleagues (2003) did not provide a measure of knowledge, and therefore they were unable to comment on why the disconnect between research and teacher knowledge remains. Also, they focused exclusively on the knowledge needed for the earliest of readers, which begs the question of whether teachers could be taught about knowledge relevant to upper elementary grades, such as reading motivation and print exposure.

It is therefore clear that teachers’ RRK has been investigated from many angles. However, there is a paucity of work that looks at teacher knowledge in elementary school teachers beyond those emergent literacy skills. Studies with young adults, adults and specifically teachers have found that negative outlooks towards reading are often traced back to negative experiences within school regarding the quality and interest of the books and the corresponding instructional strategies (Applegate et al., 2014; Martin-Chang et al., 2021; Morawski & Brunhuber, 1995; Nathanson et al., 2008), or even negative memories in learning how to read (Spear-Swerling et al., 2020). Therefore, a teacher’s job continues once children know how to read; they must continue to make reading enticing.

### **The Present Studies**

Ideally, teachers would acquire and refine their knowledge in three ways: first, through teaching certification programs (Joshi et al., 2009a); second, through classroom experiences (Cunningham et al., 2004); and finally, through on-going professional development (Cunningham et al., 2015). The following studies examined if participating in a workshop could increase knowledge of best practice reading instruction, and related literacy concepts in pre-service and in-service teachers. Further, these studies examine how workshop participation could impact instructional planning for future and current teachers. With these samples, teacher knowledge within teacher training was investigated in the first study, and teacher knowledge within professional development was the focus of the second.

CHAPTER 4  
TEXTBOOK CONTENT FOR TEACHING READING

**Textbooks in Teacher Training**

The National Reading Panel report (NRP; 2001) summarized and labeled five components that all teachers should address when teaching children how to read: phonemic awareness, phonics, vocabulary, oral reading fluency, and comprehension strategies. It stands to reason that in order to construct literacy programs centered on these five pillars, teachers have to know about the NRP (2001), and how these recommendations came to be. After all, these recommendations were made based on summaries of extensive research conducted over several decades (see Cunningham & O'Donnell, 2015). Thus, it remains surprising that after a government funded effort to consolidate existing research and summarize it in this report, many teachers, and even teacher educators remain unknowledgeable about the five pillars of the NRP (2001), which have been widely accepted as the foundation of literacy education.

Joshi, Binks, Hougén et al. (2009) suggest that university accreditation programmes need to change how they train future teachers, in order to ensure that this crucial knowledge is found in curriculum, and explicitly taught to future teachers. Indeed, in a second study, Joshi, Binks, Graham et al. (2009) argued that it was not only teacher educators that carry the responsibility of ensuring better training of pre-service teachers, it is also the textbooks that are intended to support teacher training.

In an analysis of 17 textbooks that are commonly used in reading education courses in the US, Joshi, Binks, Graham, et al. (2009) examined if, and in what depth, the five pillars of reading instruction were included (NRP, 2001). The results show that four textbooks did not address the first two pillars (phonemic awareness and phonics), despite these being considered the

fundamental building blocks of reading development. Only 10 out of 17 textbooks correctly defined and included all five components of the NRP. Nine of the 10 textbooks that correctly defined and included all five pillars devoted less than 40% of the content to those topics. Shockingly, one textbook contained an incorrect definition of “grapheme”. Suffice to say that this analysis of 17 textbooks indicates that materials created to support teacher training are lacking, perhaps explaining why teachers are entering their field under-trained in knowledge of the five pillars of the NRP.

Similar to Joshi, Binks, Graham et al., (2009), I surveyed existing textbooks for their content on print exposure and related terms. First, I conducted a library search for textbooks that are used in or related to literacy education. A senior university librarian specialized in Education and Applied Linguistics, who was blind to the purpose of this study, assisted in procuring a list of textbooks related to teaching language arts. This resulted in a list of 33 textbooks, published between 1995 and 2018. Because the textbooks were available in their digital forms, I was able to search for terms related to print exposure appearing in the text.

Specifically, I searched for the terms: *print exposure*, *reading volume*, *leisure reading*, and *reading for pleasure*. Key terms referring to classroom practices were also searched, such as sustained silent reading, literature circles or book clubs. In addition, the reference lists were checked for the inclusion of three seminal works in the field (Cunningham & Stanovich, 1997; Mol & Bus, 2011; Stanovich & West, 1986).

Within the selection of 33 textbooks, two books explicitly referred to print exposure and cited work of prominent researchers in the field. Six more books referred to print exposure tangentially, such as in conjunction with sustained silent reading, book clubs, or the use of

popular fiction in literature circles. The remaining 25 books did not include any reference to print exposure, or the importance of reading for pleasure.

Thus, in line with Joshi, Binks, Graham et al., (2009), I found that 93% of the literacy textbooks sampled failed to mention the terms *print exposure*, *leisure reading*, or *reading volume* specifically and 83% failed to include any material related to these topics. This is astonishing. Print exposure is defined as “reading across the lifetime” and the textbooks sampled were specifically aimed at providing content for language arts teachers. It therefore stands to reason that if pre-service teachers are not receiving this information via textbooks, training programs and instructors must take up the mantle.

Thus, Study 1 investigates this gap in teacher training. Specifically, I worked with a sample of 100 pre-service teachers, before they had received any formal instruction about how to teach reading. I designed measures to assess pre-service teachers’ knowledge of terms and practices related to literacy instruction in the upper elementary grades, as well as adapted an instructional planning activity that could act as a barometer of what participants valued in a classroom, in terms of importance. These measures were given before and after an intervention that took place in form of a workshop. In this workshop, I taught pre-service teachers about the importance of print exposure and how that might pertain to classroom reading instruction. Thus, the following manuscript addresses what information pre-service teachers have about print exposure, how they might obtain this knowledge, and how it matters to their instructional abilities.

## CHAPTER 5

### PRINT EXPOSURE AS A COMPONENT OF TEACHER KNOWLEDGE

#### **Disclosure**

In this manuscript, a sample size of 100 pre-service teachers is reported. Data of 35 of these participants were collected within the research I conducted for my Masters' thesis in 2015. However, 65 more participants were added during my PhD, and all data were reanalyzed for this manuscript. New analyses were run, and an entirely new document was written for this dissertation.



**Print Exposure as a Component of Teacher Knowledge**

Stephanie Kozak and Sandra Martin-Chang

### **Abstract**

Heightened teacher knowledge is associated with superior classroom practice; knowledge about the importance of leisure reading falls within that umbrella. In a pre-test, intervention, post-test design study, we assessed teacher knowledge of instructional practice and concepts related to literacy, as well as instructional planning, at two time points. An intervention about the importance of print exposure successfully increased preservice teachers' knowledge, and was also reflected in more time allocated for student reading. The data demonstrate that knowledge related to print exposure can be increased, which may impact how preservice teachers plan for instruction.

*Keywords:* literacy/reading teacher education; preservice teacher education; teacher knowledge;

### **Print Exposure as a Component of Teacher Knowledge**

When it comes to educating the youngest readers, there is wide agreement that effective teachers need to be equipped with knowledge of basic language constructs (Binks-Cantrell et al., 2012; Cunningham et al., 2004; McCutchen et al., 2002a, 2002b; Moats, 2014; Spear-Swerling & Brucker, 2004). Needless to say, as children grow, they continue to need guidance to expand their vocabulary, increase their fluency and hone their comprehension abilities (see Shanahan, 2006); it therefore stands to reason that teachers of more advanced readers also require specialized knowledge to be effective. Interestingly, print exposure correlates positively with all of these linguistic skills (Martin-Chang & Gould, 2008; Mar & Rain, 2015). However, despite extensive research promoting the benefits of print exposure (e.g., Sparks et al., 2014), leisure reading among older children and teenagers continues to decline (National Endowment for the Arts, 2007). At the same time, small, but significant, decreases in literacy skills have been noted in children beginning in Grade 4 (National Center for Education Statistics, 2019). This raises the question of whether explicit instruction and reading practice are being sufficiently promoted in upper elementary classrooms. It has been noted that teachers who have higher print exposure scores themselves, create lesson plans that include more best practice instruction compared to their peers who show less of an affinity for reading (Kozak & Martin-Chang, 2019; McKool & Gespass, 2009). Yet, it remains unknown whether including ‘print exposure’ as a topic in teacher training programs impacts the way teacher candidates plan for instruction, irrespective of their own reading habits. The goals of the present study were twofold: (1) to examine whether preservice teachers’ content knowledge about print exposure can be increased, and if so, (2) to examine whether it is reflected in how preservice teachers plan for literacy instruction in upper elementary classrooms.

## Teacher Knowledge

The more knowledge teachers have access to, the more they are able to pass on to their students. This phenomenon, known as the Peter Effect, has been examined with respect to early readers, as well as young adults (Applegate & Applegate, 2004; Applegate et al., 2014; Binks-Cantrell et al., 2012). However, fewer studies have investigated the knowledge teachers require to support their students' progression through the upper elementary grades. Reading development can be conceptualized as a spectrum with children advancing through a sequence of phases as they progress towards fluency. Ehri (1995; 2005; 2015) suggested that explicit instruction and ample reading practice are both necessary as children move from foundational (e.g., partial alphabetic) to more advanced (e.g., consolidated alphabetic) phases. Thus, teachers need to be well versed in empirically based techniques to provide the best possible explicit instruction, as well as understand the conditions that foster ample reading practice. Ideally, the combination of excellent instruction and positive reading experiences will result in fostering a love for reading (Wei et al., 2020).

Teacher knowledge can be improved in two significant ways: first, by providing empirically grounded instruction in teaching training programs; and second, by ensuring that textbooks contain accurate, research-based information to support student learning. Sadly, evidence suggests that both teacher educators and textbooks show deficits in transmitting pertinent knowledge to preservice teachers (Joshi et al. 2009a, 2009b).

Up until now, reading related knowledge (RRK) has been conceptualized predominantly as understanding reading disorders and the knowledge of basic building blocks of English. For example, RRK includes being able to define terms such as “dyslexia,” “phoneme,” and “grapheme,” as well as being able to identify phonemes in spoken words and map them on to the

correct graphemes in written words (Washburn et al., 2011). However, the umbrella of RRK for teachers of students in kindergarten – Grade 3, has sometimes been extended to include knowledge of storybooks (e.g., Cunningham et al., 2004).

It seems reasonable that teachers should be well versed in children's literature. Surprisingly, Cunningham et al., (2004) found that only 68% of the junior elementary teachers sampled could recognize even the most common children's titles such as "Good Night Moon." Similarly, Kozak and Martin-Chang (2019) found that only 60% of preservice teachers were able to recognize C.S. Lewis as a real children's author. Recent work has shown that story choice affects the quality of social interactions between children and parents (Muhinvi et al., 2019). The same is presumably true for older children when discussing books in the classroom. Indeed, given that leisure reading is pivotal to struggling readers (Mol & Bus, 2011), Glenn and Ginsberg (2016), and Wei et al., (2020) have emphasised the important role teachers play in helping select and navigate engaging texts for students identified as 'struggling.'

Exploring this idea in a general population, Ivey and Johnston (2013) worked with four expert teachers who targeted reading engagement in their Grade 8 students (N=71). The teachers promoted over 150 high interest books in the first week of school and subsequently gave students the autonomy to select what they would read throughout the rest of the year. Providing students with a bank of curated titles sparked an increase in students' impromptu discussions regarding their book choices. This approach maximized the social aspects of reading. The authors noted positive impacts on the students' reading experiences and an increase in the number of students who passed Grade 8. While these teachers were experts on children's literature, Ivey and Johnston (2013) did not focus explicitly on teacher knowledge.

Kim and colleagues (2016) also explored the notion of text selection by conducting a large-scale intervention involving 483 below-average readers in Grades 6 to 8. Here, Kim and colleagues (2016) leveraged student interest by building a multi-tiered intervention (i.e., word analysis, vocabulary, fluency, comprehension) centered around compelling young adult (YA) literature and rich opportunities for peer interactions. In doing so, Kim et al. (2016) addressed the most likely candidates when it comes to mediating independent reading habits, namely reading skill and fluency. The results showed that the reading program increased students' word recognition, morphological awareness, and reading comprehension. Kim et al. (2016), speculated that using high interest books, paired with a dynamic form of delivery, encouraged children to complete more of the assigned workbooks, and thus resulted in higher gains in the experimental group. However, here too, teacher knowledge was not examined within the context of the intervention.

DeNaeghel and colleagues (2016) were among the first to extend teacher knowledge to include broader concepts, such as autonomy, competence and relatedness (Ryan & Deci, 2000). In relation to reading instruction, autonomy refers to giving children agency by providing a degree of choice in reading materials, assignments and timelines, whereas competence is developed by ensuring that students receive enough explicit instruction to develop age appropriate reading skills. Lastly, relatedness involves students feeling connected to their teachers and peers. Interestingly, students of teachers in the workshop showed increased autonomous reading motivation from pre- to post-test (DeNaeghel et al., 2016). The authors concluded that when educators are taught how to support elements related to intrinsic reading motivation, there is a positive effect on the reading habits of their students.

A final study by Kozak and Martin-Chang (2019), also extended teacher knowledge to include familiarity with popular children's literature. Authors worked with 106 preservice teachers and found that those who showed a proclivity towards reading for pleasure in their own lives scored higher on tasks assessing knowledge of the importance of print exposure. These same participants also allocated more time for student reading and teacher-led instruction in a hypothetical lesson planning activity intended for students in Grade 5. Furthermore, even after controlling for familiarity with adult fiction and children's storybooks, it was experience with novels written for children and adolescents that was linked to performance on the knowledge tasks. In other words, preservice teachers who were familiar with children's novels and YA literature, dedicated both more time for their students to read and more time for explicit teaching activities.

### **Classroom Practices**

Teacher knowledge can be divided into content knowledge (what to teach) and pedagogical knowledge (how to teach it; Kleickman et al., 2013). Of specific interest here, when analyzing the lesson planning activity, Kozak and Martin-Chang (2019) distinguished between the time allocated for students to read themselves versus the time allocated for students to listen to reading. In this case the content knowledge, namely, prioritizing reading in the classroom, was the same. However, in terms of pedagogical knowledge, reading and listening-to-reading are two cognitively distinct activities. When students read themselves, they are exercising multiple skills, beginning with perceiving visual input from the page and ending with comprehending the text as a whole (McKenna & Stahl, 2009). As previously discussed, Ehri (1995; 2005; 2015) extolled the virtues of reading practice in conjunction with explicit teaching in order to consolidate word forms with their spoken pronunciations. This outlook was also endorsed by Share (1999; 2004),

who stated that the majority of words are ‘self-taught’ by being encountered in text, but only after children are given a solid understanding of the alphabetic principle through explicit teaching. According to the self-teaching hypothesis, decoding focuses children’s attention on the graphemes and their sequence within words, ultimately forming the orthographic representations that underlie fluent reading (Share, 1999). A great deal of scholarship has been dedicated to testing these theories, but what we are highlighting here is the notion that children, who are exposed to a greater volume of text by reading it themselves, have more opportunities for consolidation (Ehri, 1995; 2005; 2015), and/or for self-teaching to take place (Share, 1999).

Conversely, different critical skills are exercised when students listen to others read aloud (Meyer et al., 1994). Studies with younger children have shown the importance of listening to fluent reading when developing accurate prosody (e.g., Fountas & Pinnell, 2012). Interviews with older children have also revealed the importance of read alouds when promoting reading as a form of entertainment and a method of relaxation (Merga, 2017). Furthermore, when adults are asked to reflect on their engrained reading habits, many enthusiastic readers recall having high school teachers who emphasised classroom discussions around selected readings (Nathanson et al., 2008).

Unfortunately, these same benefits do not generalize to situations where students are listening to their peers read under duress. Round robin reading, which is sometimes called popcorn reading, combat reading, or popsicle stick reading (Finley, 2014), is a classroom activity where each student is randomly asked to read aloud from a teacher-selected text. As Ash et al. (2009) explain, the students who have been called upon are often anxious to read aloud in front of their classmates; likewise, those who should be listening are either frustrated because they would rather be reading themselves, or are reading ahead in case they are called upon next.



Intuitively, this seems like an outdated and unpleasant classroom practice. And indeed, adults who are disinclined to read for pleasure often cite negative classroom experiences such as these as the source of their attitudes towards reading (Applegate & Applegate, 2004; Applegate et al., 2014). Thus, while there are different instructional formats of reading that vary from grade to grade, empirical evidence suggests that some formats of student reading are clearly more suitable than others and that some classroom experiences can carry long term negative consequences for students (Wei et al., 2020).

In contrast to round robin reading, a positive research-based method for combining explicit code-based instruction with opportunities for connection with teachers and peers is known as *guided reading* (Fountas & Pinnell, 1996). Guided reading is a classroom activity whereby teachers work closely with small groups of students at similar reading levels to tackle specific reading strategies. Although it may not offer students a choice in the texts they read, the materials are carefully chosen by the teacher with an eye towards students' interests and skill levels. This teaching strategy is especially beneficial for readers in upper grades who still struggle with decoding skills (Fountas & Pinnell, 1996). Similarly, literature circles typically involve many of the elements of student engagement including offering a choice of novels (autonomy), providing opportunities for discussing books (relatedness), and scaffolding discussion by using 'roles' (competence; Daniels, 1994). Finally, teachers can also plan time for students to read and discuss self-selected texts during class as part of sustained silent reading (Kelley & Clausen-Grace, 2006; Yoon, 2002). When used skillfully sustained silent reading can be a bridge between classroom mandated reading and reading for pleasure outside of school.

### **Reading for Pleasure**

Reading for pleasure, or leisure reading, often makes up the bulk of exposure to print over the lifetime (Locher & Pfof, 2020). Print exposure has been the source of much scientific inquiry because it correlates positively with a wide range of skills including theory of mind, empathy and world knowledge (Aram & Aviram, 2009; Cunningham & Stanovich, 1991, 1997; Kozak & Recchia, 2018; Mar et al., 2010; Mol & Bus, 2011; Sparks et al., 2014; Stanovich, 1986; Stanovich & Cunningham, 1993; Stanovich & West, 1989). To illustrate, in a study with 86 children in Grade 6, Spear-Swearling et al. (2010) found that the students who could identify the most popular authors on an Author Recognition Test (ART; Stanovich & West, 1989) also had the highest scores on linguistic measures of decoding, word recognition, vocabulary, fluency, oral comprehension, and reading comprehension.

Although reading for pleasure typically refers to activities completed outside of school (Mol & Bus, 2011), teachers play a crucial role in promoting leisure reading in two ways. First, they are responsible for providing the explicit code-based instruction children require to learn how to read (Moats, 1994, 2004). As would be expected, teachers who are more knowledgeable about language structures are better positioned to give excellent early instruction (Piasta et al., 2009). Second, teachers can select motivating texts, provide necessary background knowledge, and offer engaging assignments within their classrooms (Wei et al., 2020).

### **Current Study**

Taken together, these studies suggest that teachers are instrumental in when it comes to supporting students' reading acquisition, and subsequently creating rewarding reading experiences. Therefore, it is critical to elucidate the physical (e.g., wide selection of books) and pedagogical requirements needed to create learning experiences that might promote reading (see Guo et al., 2012; Pianta & Hamre, 2009 for examples in preschools). Thus, we argue that

understanding the effects of print exposure, and the classroom practices conducive to fostering it, should fall under the umbrella of teacher knowledge. Therefore, two research questions guided this investigation: (1) can an intervention targeting print exposure increase preservice teachers' ability to define and recognize activities that promote, or detract from, leisure reading? And (2) does being informed about the importance of print exposure influence how preservice teachers planned for instruction?

## Method

### Participants

Research permission was granted from the university ethics board of a competitive elementary teaching program in North America. A total of 120 Canadian preservice teachers were invited to participate from three classes. Of these, 100 participants from three cohorts completed both pre- and post-test measures and were included in the final sample (first cohort,  $n = 33$ , second cohort,  $n = 32$ , third cohort,  $n = 35$ ). There were 93 females and 7 males in this sample and on average, they were just under 24 years old ( $M$  age = 23.40,  $SD = 4.87$ ). There was no significant difference between the cohorts in age ( $p = .99$ ), and years in the program ( $p = .17$ ). Twelve participants held previous university degrees. None had taken previous courses in English instruction. Each of the measures are detailed below. Participants were randomly signed into experimental ( $n = 53$ ) and control groups ( $n = 47$ ). The two groups did not significantly differ on any of the measures at pre-test, including their own print exposure,  $t(98) = -1.60$ ,  $p = .18$ , or knowledge of classroom practices and literacy concepts,  $t(98) = .281$ ,  $p = .78$ .

## **Materials**

### ***Demographics***

Participants provided information regarding their age, gender, and language(s). They were also asked about previous university degrees and whether they had ever taken previous classes about English instruction.

### ***Teachers' Own Print Exposure***

The participants were asked to complete two adapted checklists: an ART and a Title Recognition Test (TRT; both adapted by Kozak & Martin-Chang, 2019). The ART was adapted to include authors of Children's and YA fiction (ART-CYA); all author names and foils were contained within one checklist, but two separate scores were calculated based on whether authors primarily wrote for adults (ART-A), or for younger readers (ART-CYA). In both cases, scores on the ART were calculated by subtracting the proportion of foils identified from the proportion of authors correctly identified (e.g.,  $\text{CYA-Authors identified} / \text{Total CYA-Authors} - \text{Foils identified} / \text{Total foils}$ ).

The Title Recognition Test (TRT; adapted by Kozak & Martin-Chang, 2019) operates under the same logic as the ART, but when used with an adult population, the scores are thought to be reflective of how often adults read to children. Here, scores are calculated once again by subtracting the proportion of made-up storybook titles identified from the titles correctly identified as being real storybooks ( $\text{Titles identified} / \text{Total titles} - \text{Foils identified} / \text{Total foils}$ ). Together, these served as a proxy measure of how familiar participants were with (a) novels written for adults (ART-A), (b) novels written for children and young adults (ART-CYA), and (c) storybooks (TRT).

### ***Knowledge of Classroom Practices and Literacy Concepts***

The knowledge task was administered in two separate parts. First, participants were asked to define six terms related to upper elementary literacy instruction. Three of these items were identified as best practice instruction based on extant literature. These included: literature circles, guided reading, and sustained silent reading. Two additional target items were identified based on the literature as being harmful to reading development, these included round robin reading (Ash et al., 2009), and the negative consequences of the Matthew effects (Stanovich, 1986). Finally, we asked participants to define print exposure outright. These answers were scored on a three-point scale, ranging from 0 to 2. Specifically, answers that were left blank or where incorrect were scores 0; partial definitions were scored between 0.5 and 1.5, depending on how many elements of the correct answer were given; fully correct answers were awarded 2 points.

Next, participants were asked to evaluate teaching vignettes that described the following six literacy teaching concepts without referring to them by name: reading for pleasure, guided reading, identifying Matthew effects, teacher read-alouds, watching film versions of popular books in place of reading them (reverse scored), and round robin reading (reverse scored). Participants were presented with these vignettes and asked, “What do you think about this teaching practice?” Here, too, answers were scored on a three-point scale, ranging from 0 to 2. Whether or not a vignette was deemed as a beneficial reading practice was grounded in reading research. Missing or incorrect answers were scored 0; partially correct answers were scored between 0.5 and 1.5, depending on how many elements were identified and evaluated correctly; fully correct answers were awarded 2 points.

Taken together, defining and identifying practices that can support or hinder the promotion of reading, as well as the ability to define and identify the term print exposure itself, served as a measure of teacher knowledge of instructional strategies and literacy concepts. Interrater reliability for the knowledge measures was calculated on 20% of the sample and were good for the definitions task, ( $\kappa = .75, p < .001$ , Cohen, 1988) very good for the vignettes task, ( $\kappa = .88, p < .001$ ). See Appendix A for coding details.

### ***Planning for Instruction***

In its original conception, the Language Arts Activity Grid was designed for teachers to plan for an hour of language arts instruction in Grade 1 (Cunningham et al., 2009). The grid used in this study was adapted to allow teachers to plan for a week of language arts instruction with children in upper elementary school (see Kozak and Martin-Chang, 2019 for more details). In completing the activity grid, participants were required to draw on their knowledge regarding literacy instruction. The completed grids act as a reflection of a teacher's "ideal self"; the participant is asked what activities they would like to implement without the constraints of real-time disruptions (e.g., behaviour issues) or resources limitations (e.g., lack of classroom book sets).

The completed grids were read multiple times in order to establish a coding scheme (Saldaña, 2013). We were specifically interested in what the hypothetical Grade 5 students were doing in each activity. First, we used the participants' written responses to extrapolate keywords that described the focus of each activity in their own words (In Vivo coding); next, focused coding streamlined the initial codes into more coherent categories. This process resulted in ten different activity codes: discussion, writing, reading, listening to reading, listening to explicit teaching, word work, entertainment, worksheets, assessments, and transitions. Of particular interest to the outcomes were the categories "reading" and "listening to reading." When lessons

involved students reading (e.g., free reading, “drop everything and read,” class novel), these were categorized as reading; in cases where students were not doing the majority of reading themselves, they were categorized as “listening to reading” (e.g., round robin reading, teacher read alouds, listening to audiobooks). In instances where partner reading was listed (e.g., read to a friend), the time allocated was divided in half to respect both students reading themselves (“reading”) and “listening to reading” (For more details see Appendix A).

### **Intervention**

The experimental group participated in two 1-hour sessions that were conducted one week apart. Within this intervention, participants were taught about the many correlates of print exposure. They were also taught about the hallmarks of best practice instruction (e.g., offering choice, being well-versed in popular children’s literature, being cognizant of students’ needs). As well, participants discussed their own educational experiences and were taught examples of classroom techniques that have been empirically demonstrated as good practice, such as guided reading and literature circles, and the focused merits of reading aloud to students (e.g., listening comprehension, vocabulary development, modeling fluency). While we provided examples and stories about classroom activities, we did not teach students how to plan for instruction.

The control group also participated in two 1-hour sessions that were conducted one week apart. However, here the focus was on another skill that is critical to upper elementary instruction, namely: inferencing (e.g., Van Kleeck, 2008). Within these sessions, students were taught about the differences between literal questions and causal inference questions. After learning about the different types of questions and the importance of drawing inferences, participants were given the chance to write their own questions for a specific text. While this is

also a crucial skill for teachers in upper elementary grades, it was not related to the outcome measures collected in this study.

## **Procedure**

### ***Intervention***

Participants were randomly assigned into either experimental or control groups. Pre-testing took place at the beginning of the first semester of a two-semester language arts class that is typically taken in the third year of the program. The questionnaire was administered in pen and paper format, in the following order: demographics, definitions task, activity grid, print exposure checklists, and vignettes task. Participants were given 45 minutes to complete the survey. This time allocation was deemed appropriate after pilot-testing. The intervention took place during two weeks in February. Post-tests were administered in March, following a two-week delay after the final intervention session.

## **Results**

### **Intervention**

We used two measures to assess teacher knowledge about print exposure, related literacy concepts, and classroom practices: the definitions task and the vignettes task. The results showed that these theoretically related knowledge tasks were significantly positively correlated at post-test,  $r = .34, p < .001$ , therefore, a knowledge composite was calculated by adding the raw scores on each measure and dividing by full possible score over both categories (24 points) for a percentage. This composite was used in all subsequent analyses. Similarly, the three measures of print exposure (ART-A, ART-CYA, and TRT) were significantly correlated, all  $r$ 's  $\geq .44$ , all  $p$ 's  $< .001$ , therefore, a composite of participants' own print exposure was calculated by summing the proportions together and dividing by three.

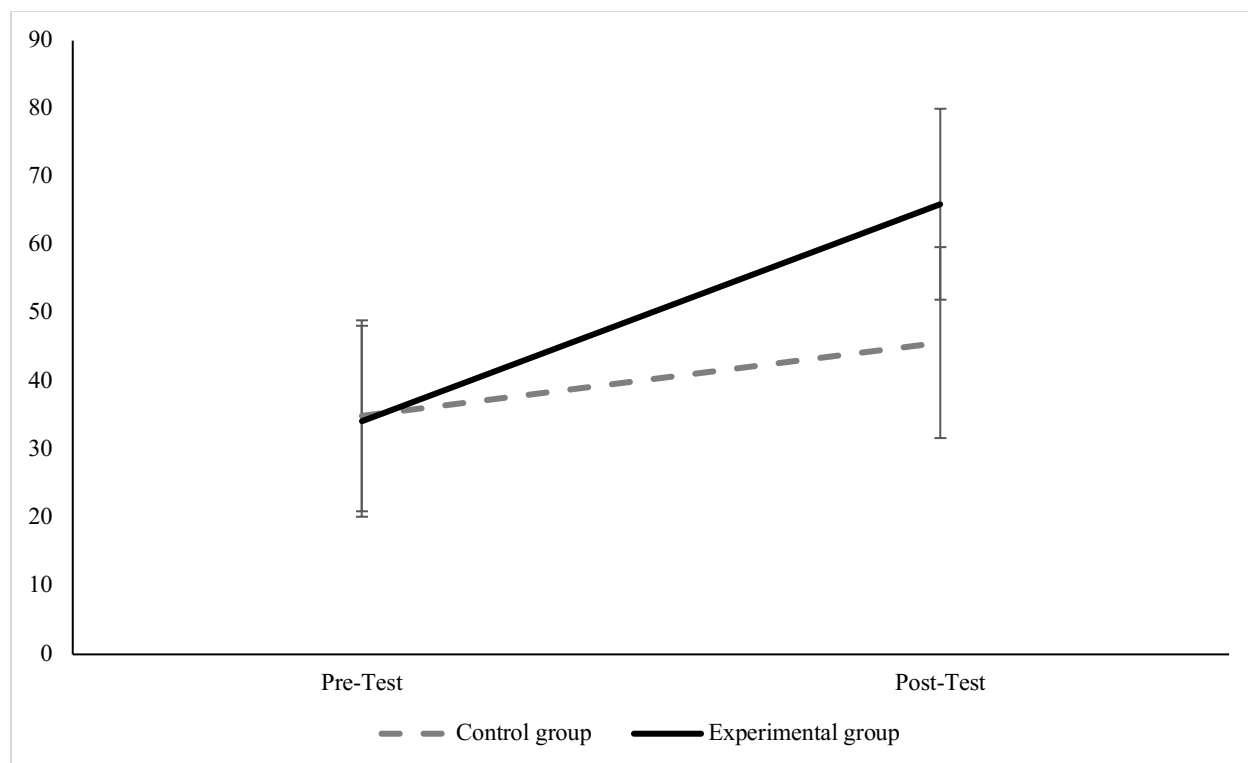


## Knowledge of Classroom Practices and Literacy Concepts

As seen in Figure 1, both groups scored approximately 35% on the composite assessing knowledge of classroom practices and literacy concepts at pre-test. However, when these same tasks were re-administered four weeks later at post-test, the experimental group (65.97%) outperformed the control group (45.69%). In order to determine whether these differences were significant, we conducted a 2 (group: control group vs. experimental group) x 2 (time: pre-test vs. post-test) mixed ANOVA, with the knowledge composite as the dependent variable. A significant main effect of group, ( $F(1, 93) = 43.85, p < .001, \eta_p^2 = .32,$ ) was noted, as was a main effect of time ( $F(1, 87) = 124.40, p < .001, \eta_p^2 = .59$ ). These were qualified by a significant two-way interaction with a large effect size,  $F(1, 87) = 26.42, p < .001, \eta_p^2 = .23$ . A simple main effect analysis confirmed that the experimental group scored higher than the control group on the knowledge measure at post-test,  $t(1,93) = -6.62, p < .001, 95\% \text{ CI } [-3.16, -1.70], d = -1.36$ . This indicates that the intervention was successful at increasing preservice teacher knowledge of best practice instruction, and literacy concepts relating to, and including print exposure. Specifically, preservice teachers in the experimental group experienced significantly greater growth in the ability to define and describe teaching practices reflective of concepts such as Matthew effects, literature circles, guided reading, round robin reading, and sustained silent reading.

### Figure 1

*Pre- and post-test scores on knowledge of classroom practices and literacy concepts as a function of group (in percentage)*



*Note.* Error bars represent standard deviations.

### Planning for Instruction

The third goal of this study was to determine whether the intervention would change how participants planned for instruction. We were specifically interested in whether an intervention that targeted knowledge of classroom literacy practices and related concepts would change how preservice teachers planned for reading time in a hypothetical Grade 5 classroom. In addition to student reading, we chose to include the top five most frequently planned for activities in the further analyses: Discussion, Writing, Student Reading, Listening to Reading, and Explicit Teaching. The amount of time allocated for each of these classroom activities did not significantly differ between the experimental and control groups at pre-test<sup>1</sup>: discussion,  $t(86) = 1.19, p = .23$ ; writing,  $t(85) = -.23, p = .82$ ; student reading,  $t(85) = 2.03, p = .045$ ; listening to

<sup>1</sup> Family-wise error corrected for multiple tests, adjusted alpha = 0.01.

reading,  $t(85) = -.27, p = .79$ ; and listening to explicit teaching,  $t(84) = .14, p = .89$ . See Table 1 for the means and standard deviations.

**Table 1**

*Pre- and post-test planning for instruction allocation in minutes.*

	Control ( $n = 47$ )		Experimental ( $n = 53$ )	
	Time 1 (SD)	Time 2 (SD)	Time 1 (SD)	Time 2 (SD)
Discussion	119.75 (60.77)	97.14 (58.43)	103.22 (59.65)	84.70 (53.57)
Writing	78.13 (63.11)	92.21 (70.60)	81.30 (66.95)	101.05 (62.05)
Student Reading	63.63 (47.21)	54.36 (53.65)	43.19 (46.17)	81.05 (60.81)
Listening to reading	28.00 (31.11)	21.98 (30.19)	30.11 (40.53)	10.45 (20.18)
Listening to explicit teaching	14.36 (27.19)	25.48 (33.90)	13.62 (22.11)	16.15 (26.89)

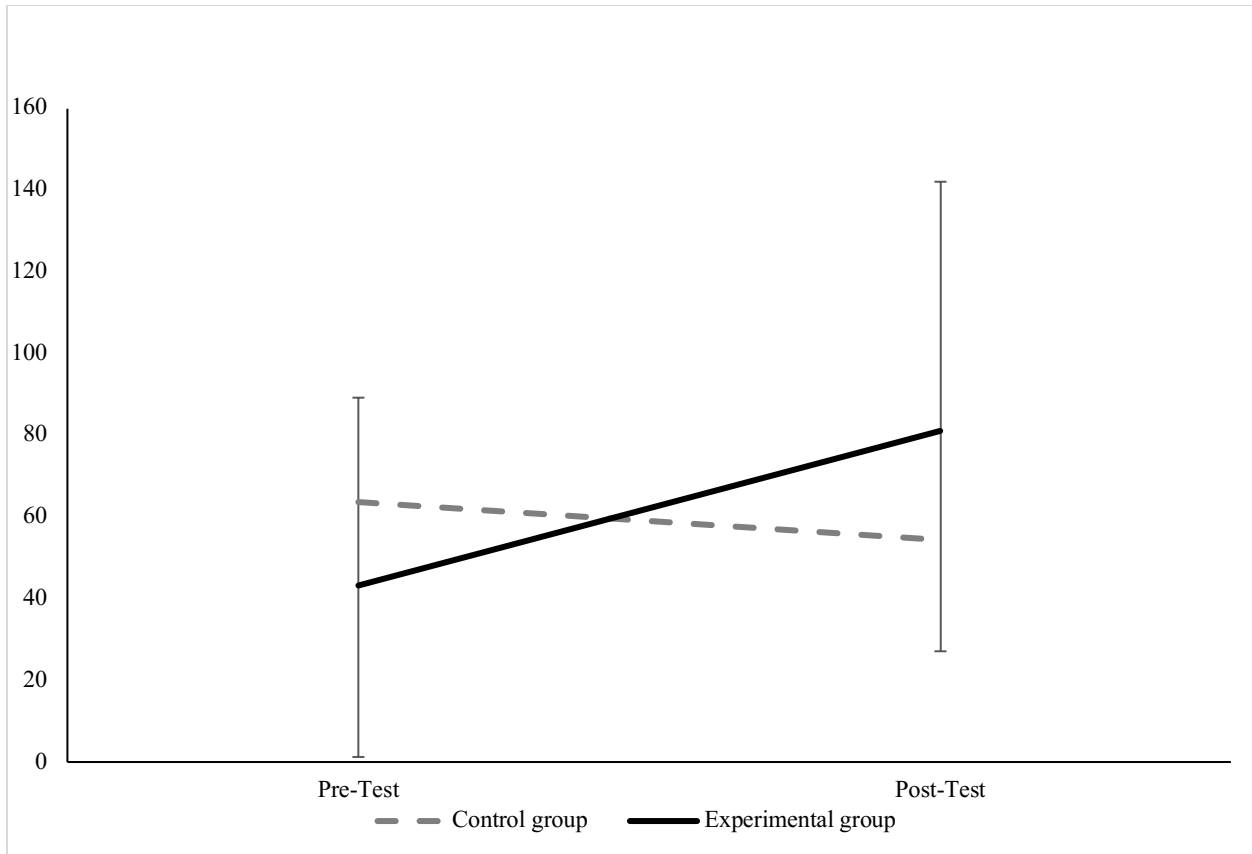
As seen in Table 1, due to the nature of the Activity Grid, the standard deviations are quite large. Therefore, the assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances. Nonetheless, because our group sample sizes were roughly equivalent, and a three-way mixed ANOVA lends some robustness to homogeneity of variances, a 2 (control group vs. experimental group) x 2 (pre-test vs. post-test) x 5 (most commonly planned for activities) mixed ANOVA was conducted. Mauchly's test of sphericity indicated that the assumption of sphericity was violated,  $\chi^2(9) = 80.59, p < .001$ . Therefore, the Greenhouse-Geisser correction was applied. There was a statistically significant main effect of Activity,  $F(1, 77) = 72.02, p < .001, \eta_p^2 = .48$ . We also found a statistically significant two-way interaction between Time and Activity,  $F(1,77) = 6.64, p = .004, \eta_p^2 = .06$ . These were qualified by a statistically significant three-way (Time x Activity x Group) interaction with small effect size,  $F(1, 74) = 3.10, p = .03, \eta_p^2 = .04$ . Our guiding theoretical question was: did participants in

the experimental group change how much time they allocated for reading in their activity grids? Therefore, we examined each of the five activities in separate 2 (control group vs. experimental group) x 2 (pre-test vs. post-test) ANOVAs, with a Bonferroni-adjusted alpha level of .01. For three of the activities (discussion, writing, listening to explicit teaching), no main effects or interactions were significant, all  $p$ 's > .053.

With regard to the amount of time planned for student reading, a statistically significant two-way interaction between Time x Group with large effect size was noted,  $F(1,78) = 16.58, p < .001, \eta_p^2 = .18$ . There was a statistically significant main effect of time with moderate effect size,  $F(1, 78) = 3.10, p = .01, \eta_p^2 = .08$ . The main effect of group was not significant,  $F(1,78) = .12, p = .74, \eta_p^2 = .001$ . These effects were qualified by the significant Time x Group interaction. Subsequently, we conducted an independent samples  $t$ -test to determine if the participants planned for more time for students to read at post-test. As is depicted in Figure 2, participants in the experimental group indeed planned for significantly more time for their hypothetical Grade 5 students to read after participating in the intervention than participants in the control group,  $t(90) = -2.12, p = .02$ . As seen in Figure 2, those in the control group allocated an average of 55 minutes for students to read at post-test ( $SD = 53.65$ ); those in the experimental group allocated 81 minutes per week for student reading ( $SD = 60.81$ ).

## **Figure 2**

*Time allocated for students to read in Activity Grids (in minutes)*

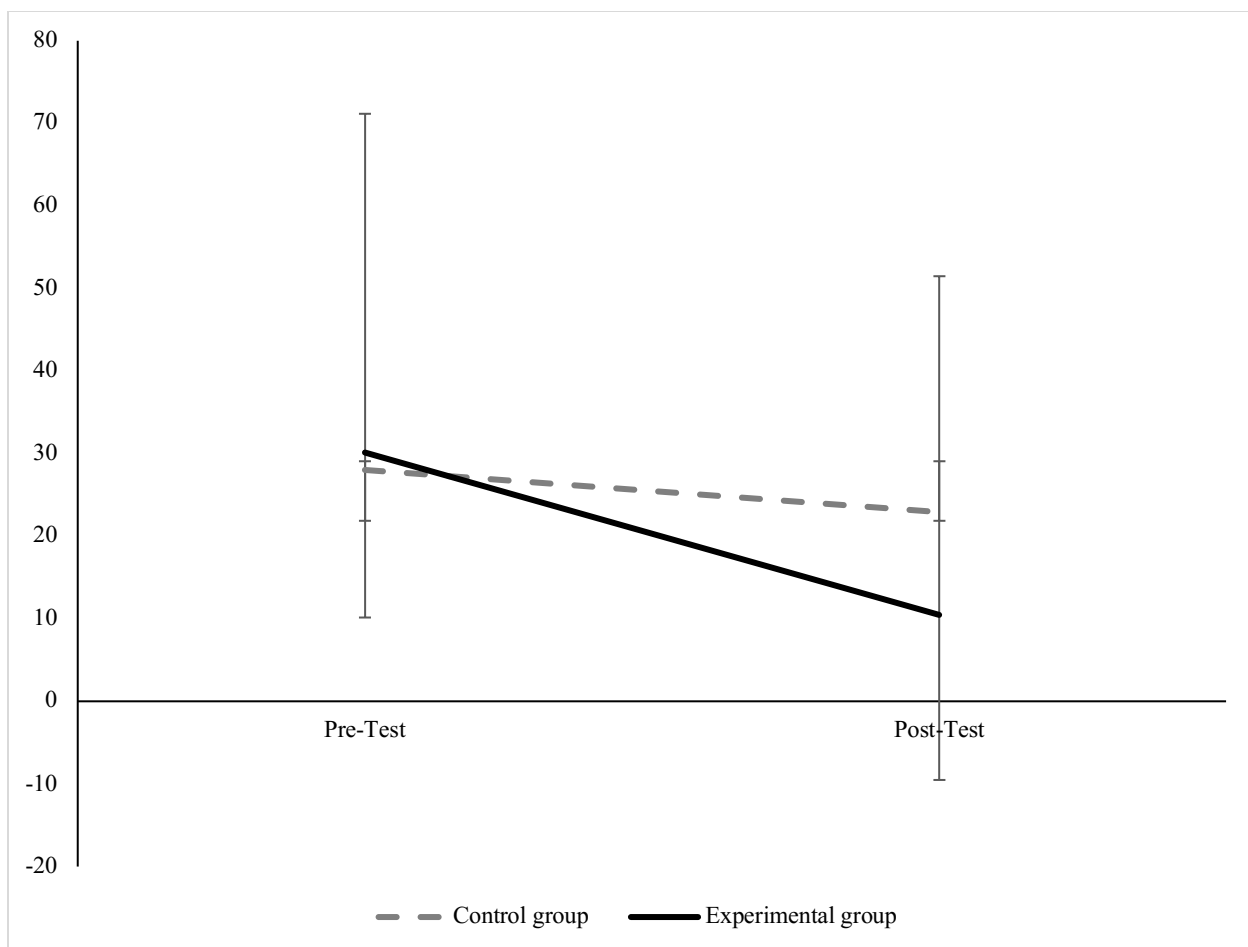


*Note.* Error bars represent standard deviations.

Turning our attention to time allocated for students to listen to reading, a 2 (group) x 2 (time) mixed ANOVA revealed a significant main effect of time with moderate effect size,  $F(1,78) = 7.71, p = .007, \eta_p^2 = .09$ . The main effect of group was not significant,  $F(1,78) = .98, p = .33, \eta_p^2 = .012$ . An independent samples t-test revealed that the experimental group planned for significantly less time for students to listen to reading ( $M = 10.45, SD = 20.18$ ), than the participants in the control group, ( $M = 21.97, SD = 30.19$ ),  $t(90) = 2.18, p = .03, 95\% CI [1.03, 22.02], d = .46$ . The two-way interaction between Time x Group failed to reach significance,  $F(1,78) = 3.26, p = .075, \eta_p^2 = .04$ . See Figure 3.

### Figure 3

*Time allocated for students to listen to reading in Activity Grids (in minutes)*



*Note.* Error bars represent standard deviations.

## Discussion

Whether it is sharing a beloved book, or organizing literature circles, the Peter Effect reminds us that teachers cannot use information that they do not have (Applegate & Applegate, 2004; Applegate et al., 2014; Binks-Cantrell et al., 2012). The opposite is also true; teachers tend to design classroom activities that stem from their own strengths (Alexander, 2003). Thus, when it comes to creating rich learning opportunities for their students, more knowledgeable teachers have a deeper well from which to draw. This theory appears to bear weight, at least in respect to literacy instruction for upper elementary students. Existing work demonstrates that preservice

teachers' own reading habits shape how they plan for Language Arts instruction (Kozak & Martin-Chang, 2019). Furthermore, providing teachers with knowledge about reading motivation increases the autonomous reading motivation reported by their students (DeNaeghel et al., 2016). Here, we examined whether we could increase preservice teacher knowledge about the importance of print exposure, and in turn, if this was reflected in changes how they planned for instruction.

Similar to other studies (e.g., Moats, 2014) we found that the preservice teachers' ability to define and recognize different classroom practices was quite low at pre-test (i.e., approximately 35% in both groups) but that this content knowledge could be significantly improved with a modest amount of instruction. Indeed, our two-hour workshop almost doubled the scores of the experimental group (66%). Therefore, making a point to specifically discuss the benefits of print exposure resulted in substantially more content knowledge in the experimental group compared to the control group. The improvement in the control group was of a much smaller magnitude, highlighting the importance of explicit instruction. And yet, keeping in mind the control group was given access to four weeks of regularly scheduled classroom instruction as well as a workshop of similar duration that focused on inferencing, it is heartening that they were able to glean some information about structuring optimal learning opportunities for students.

Two weeks after the intervention, preservice teachers were asked to plan a week's worth of Language Arts instruction for a hypothetical Grade 5 class classroom. It is worth noting that the intervention focused on the correlates of print exposure, and the role of teachers in creating positive reading experiences for children. However, planning for instruction itself was not a topic that was discussed. In other words, we did not teach our participants how to structure their classroom time. Yet those participants in the experimental group spontaneously scheduled an

average of 26 more minutes a week for student reading. Furthermore, this increase in student reading time was observed without the preservice teachers being prompted to think about print exposure, reading for pleasure, or the intervention. This fits nicely with the extant research suggesting that teachers' knowledge and interests are reflected in the curriculum they structure for their students (Alexander, 2003). Therefore, our study makes a novel contribution to the literature by showing that knowledge about print exposure can be increased, and that an increase in this type of knowledge can transfer to lesson planning, specifically in how much time is allocated for student reading.

While 26 more minutes of student reading per week (approximately 5 additional minutes a day) might not seem like a significant amount of time, over the course of the school year, it amounts to 650 minutes, or almost 11 hours dedicated to reading or discussing texts. This is a conservative estimate, as it fails to account for time that students would have spent reading at home to prepare for some of the activities taking place in the classroom (e.g., for literature circles). Yet even based on this stringent estimate, given that Grade 5 students read about 100 words per minute – over a year, 5 extra minutes of reading a day would make a difference of 65,000 words encountered by students (Rasinski & Padak, 2005). By extension, it means that those students would also have had 65,000 more opportunities for self-teaching to take place (Share, 1999), or for the consolidation of reading skill to develop (Ehri, 1995; 2005; 2015).

Some may argue that time set aside for student reading is of little value to students who are struggling with basic skills, and instead emphasize the critical role of multi-tiered teacher-directed instruction. We agree that explicit instruction should take place at all levels of language, including the morpheme, word, sentence, and text levels. However, it is important to note that in the experimental group, the increase in time for student reading did not detract from how much



time was planned for other activities such as general discussion, writing, explicit teaching, word work, entertainment, worksheets, assessments, or transitions. In fact, the increase in student reading came only at the expense of time allocated for ‘listening to reading’. This category included both instances of teacher read alouds as well as round robin reading. There are clear merits to continuing to read aloud to older elementary students. These include introducing new vocabulary, engaging students in books they might not have chosen on their own, or discussing complex or sensitive themes with a whole class (e.g., Ivey, 2003). Thus, though first-hand reading experience is necessary to practice reading skills (Ehri, 1995; 2005; 2015) and create orthographic representations (Share, 1999), teacher read alouds are valuable when closely aligned with teaching objectives. On the other end of the spectrum, there are no obvious merits to round robin reading, and yet it still features prominently in North American classrooms (Ash et al., 2008). Applegate and Applegate (2004) noted that almost 30% of the preservice teachers they surveyed who identified as unenthusiastic readers described their own instruction as consisting of “‘reading dull books’ [...] or being taught by teachers ‘who did not make reading interesting’.” (p. 560). And these negative attitudes about reading in school may cascade outwards, further limiting reading for pleasure at home. As Troyer and colleagues (2019) state:

The decline in elementary school children’s intrinsic reading motivation is likely to lead to a drop in the amount of leisure reading activities they engage in outside school. This is troubling because out-of-school reading is a powerful predictor of verbal ability and reading comprehension. (p. 1198).

### **Limitations and Future Directions**

First, in this study we were asking about classroom practices which may be better known by in-service teachers compared to those still in training. Therefore, these findings need to be

replicated with in-service teachers before they can be widely generalized. Longitudinal designs that follow teachers from preservice to in-service would also be useful to elucidate how a teacher's expertise changes over time, and how this change influences their classroom practices.

Second, given that listening to teacher read alouds is regarded as a very different activity than listening to round robin reading, these activities should be disentangled and examined separately. A possible route for understanding teachers' intentions would be by supplementing the activity grids with participant interviews, or in the case of in-service teachers, by conducting classroom observations.

### **Implications**

Teachers are optimally posed to mediate between mandated in-school reading and elective out of school reading, therefore, our findings carry implications for teacher training. First and foremost, our results indicate that teacher training programs should change to ensure that teachers are taught about the importance of print exposure. With a large body of existing research supporting the importance of training teachers in basic language structures, we begin to see some countries reflect this in teacher training programs (Washburn et al., 2016; Oliveira et al., 2019). Preservice teachers should be taught when, and how, to use read alouds to their advantage. They should be shown how to make use of best practices, such as literature circles and sustained silent reading, as ways of offering choice and connection among their students. On the contrary, they should also be strongly cautioned against using books that are regarded by the majority of their students as unengaging, or any version of round robin reading which can leave lasting scars on students. In short, they should be made aware of the power they hold, and that the quality of their instruction can transfer into reading outside of the school setting – and that

reading outside of the school setting is associated with lifelong emotional, cognitive, and social benefits (Mar et al., 2006).

## **Conclusions**

This study sought to determine if an intervention regarding knowledge of print exposure would change levels of teacher knowledge, and if those, in turn, would affect lesson planning. In simple terms, we asked whether it is possible to give preservice teachers the tools to foster a love for reading, even if they themselves did not adhere to that mindset. Our data demonstrate that training teachers about the importance of print exposure does impact how they design classroom instruction.

Understanding the hallmarks of best practice instruction and how these are grounded in scientific research is an integral component in teacher knowledge. Previous research demonstrates that the use of high interest books (e.g., Kim et al., 2016), and motivating strategies plays significant roles in making reading more pleasurable for students. Furthermore, in-class reading engagement accounts for significant variance in the reading comprehension of students in Grades 3 and 4, above and beyond prior reading achievement, SES, or gender (Wantchekon & Kim, 2019). Furthermore, students who go on to become enthusiastic readers are more likely to “credit a former teacher’s enthusiasm for reading as a means of promoting books and a love of reading” (Nathanson, et al., 2008, p. 319). Thus, when it comes to providing interesting books and enjoyable classroom activities, preservice teachers should not underestimate the sway that they hold.

CHAPTER 6  
AN INTERLUDE

**Establishing Classroom Literacy Environments as Part of Teacher Knowledge: An  
Interlude**

Study 1 began with an interest in print exposure and the role it could play in a classroom. It may seem counter-intuitive that a study on classroom practice and instructional planning focuses on reading for pleasure, which is something that mostly occurs outside of school hours, and free from external demands. However, the upper elementary years seem to be a critical time period in which children either embrace reading or are discouraged (Jacobs et al., 20002). Focusing exclusively on reading skill already reveals a steep learning trajectory from Grade 1 to Grade 6. First, children must learn how to associate print to speech, in a language where that relationship is not easily explained (Moats, 2009). Next, they must practice this skill repeatedly in order to solidify and streamline their reading efficiency (Ehri, 2005). Then, this skill must become efficient enough for children to be able to select important factual content from texts in order to satisfy school assignments (Chall & Jacobs, 2003). But print exposure refers to reading for pleasure (e.g., Locher & Pfof, 2020), and it is plausible that in the finite amount of time teachers have with students, this element of reading solely for pleasure might be shortchanged.

It is important to note that positive classroom literacy environments extend to skills beyond reading. Writing and oral language skills are equally in literacy instruction. Therefore, the focus of Study 2 was expanded to consider the research corpus on print exposure and teacher knowledge within a larger context of literacy instruction. In other words, the work conducted here introduces and begins to establish a framework in which to conceptualize positive classroom literacy environments. I posit that much like the home literacy environment (Sénéchal

& LeFevre, 2001), positive classroom literacy environments are influential in developing literate adults. Within this framework, I argue that several components are included within a positive literacy environment, including formal and informal activities that together work to promote competence, autonomy, and relatedness in the development of children's reading, writing and oral skills. An in-depth investigation of teacher knowledge related to writing and oral skills are beyond the scope of this dissertation, however, in Study 2, I also measure activities that promote writing and oral language skills, as well as continuing to focus on how teachers plan activities that promote reading. In keeping with the focus on print exposure, these tasks can range from engaging with a shared class novel, to silent reading, to discussing books, to teacher read alouds.

This study adds to the field because, while classroom literacy environments have been studied within preschool settings (e.g., Guo et al., 2012), they have not been studied, to the best of my knowledge, in the upper elementary grades. Considering the convergence of factors that might lead to a demotivation in reading such as increasingly difficult texts, a shift to informational texts, less choice of reading materials, diminished view of self-efficacy as a reader (Jacobs et al., 2002), teachers in the upper elementary grades may be able to play a pivotal role in creating positive experiences that are remember into adulthood (Nathanson et al., 2008).

With this in mind, Study 2 extended on the work done in Study 1 by working with in-service teachers. In Study 1, I created a workshop based on the extant research of print exposure and how classroom practices can support out-of-school reading during class time, with a target audience of pre-service teachers. However, there is a significant difference between pre-service and in-service teachers: years of teaching experience.

Therefore, with a new target audience in mind, and in an effort to acknowledge the experience that in-service teachers have, I set out to create a similar workshop as in Study 1, but

for teachers. I expanded the content to include scientific research that began with reading development theories, and explored self-determination theory, print exposure research, and how this knowledge can be harnessed in classroom practices that promote reading, rather than deter it. In a small pilot study that took place before the intervention, I conducted two focus groups with teachers to explore what information they would be interested in learning from a professional development workshop.

Eight participants in two separate sessions discussed their language arts teaching experience. These conversations were audio recorded, transcribed, and a coding scheme was created to categorise their statements. The guiding questions were intended to facilitate a discussion about what kind of information teachers would want to learn in professional development, and to thus attempt to bridge the pervasive gap between research and classroom practice (Bursuck et al., 2003; Moats, 2014). The guiding question and a detailed coding scheme can be found in Appendix B.

These conversations revealed that teachers have many concerns when discussing their experiences in teaching language arts. In fact, large parts of the conversation dealt with topics such as the circumstances that teachers perceive as obstacles, such as class size, time constraints, lack of resources, or even the physical settings. Teachers who participated in these focus groups also discussed the role their students played in how they taught language arts, with respect to differing learning abilities, and language abilities. However, I closely examined the comments made about teaching practices, and the knowledge that teachers addressed, and where they would like to learn more.

The analysis of these conversations helped inform the workshop content. For example, teachers often mentioned practices such as literature circles but at times, the examples given in

conjunction show an incomplete understanding of literature circles. One teacher discussed literature circles as a method of delivery of the class novel but did not acknowledge the element of choice that supports autonomy and that makes literature circles a best practice strategy (e.g., Daniels, 1994). In one group, teachers talked predominantly about the use of non-fiction texts, seemingly unaware of print exposure research that extolls the virtues of reading fiction over reading of non-fiction (Mar et al., 2006).

Another notable topic was the shortage of time which seemed to predominantly affect especially informal activities that promote reading. To illustrate, teachers in one group discussed how end of year activities such as graduation activities often cut into class time, which resulted in cutting activities such as The Daily 5 (Boushey & Moser, 2014). To quote a participant: "... because Math, you can't just not do it. You want to do these other cool things, but then it's like, well I can't not teach math this week." As contended by Meyer et al., (1994), time with students is finite, and time spent on one activity is time spent away from another. It seems that when having to prioritize, activities that are "cool", and perhaps more informal in nature, such as visits to the library, or time to share books, are abandoned in order to fit in subjects and topics that are necessary for teachers to provide assessments.

Finally, teachers talked about the learning diversity among their students and commented on a shortage of high interest-low difficult level texts. This suggests that teachers are aware of the importance of relatedness and competence, which are both instrumental in reading motivation (Ryan & Deci, 2000). When asked what teachers would want to support them in their classrooms, they called for "materials that hit that sweet spot between being interesting but at the right level."

After facilitating these focus groups, I considered their comments in constructing the workshop that formed the core of Study 2. When designing the workshop content for Study 2, I focused on evidence-based research that would provide teachers with rationales to include formal and informal activities in the classroom, not simply as back up activities when there is time, but as important, meaningful learning experiences, in and of themselves. I also made sure to include the accurate definitions some of the practices that teachers referred to incorrectly, such as guided reading or sustained silent reading, and I provided evidence for why these are useful practices. For example, I decided to include literature circles as a topic, so that participating teachers would learn that the parts that make literature circles so effective (i.e., choice) should not be adapted away.

The goal of my research is to establish a framework for positive classroom literacy environments, so I began with measuring what teachers know about best practice instruction, and literacy concepts that support this knowledge. I also collected information about how they planned for instruction, prior to learning about positive classroom literacy environments. After participating in my workshop, I reassessed the knowledge measures and planning for instruction. The findings are reported in Study 2, below.



CHAPTER 7

POSITIVE CLASSROOM LITERACY ENVIRONMENTS

**Positive Classroom Literacy Environments: A Component of Reading Teacher Knowledge**

**Stephanie Kozak and Sandra Martin-Chang**

## Foreword to Study 2

The initial study design was built around a professional development teacher workshop scheduled on a pedagogical day within Sir Wilfried Laurier School Board, though attendance was open to teachers from all of the Montreal school boards. We selected a day that was designated as a pedagogical day across all school boards to increase our participant numbers. The workshop was advertised within school boards, but also on public forums, teacher groups, and by word of mouth. Thirty participants registered for this workshop. The experimental design included collecting data in pen and paper format throughout the day of the workshop. Participants would be asked to fill in part of the pre-test measures as they entered the room (consent, knowledge measures, instructional planning). During the first scheduled break, participants would be asked to fill in some of the measures that were not expected to change from pre- to post-test (demographics, print exposure). As an activity within the workshop, teachers would be asked to complete a quick-write task. At the end of the day, post-test measures would be collected (knowledge measures, instructional planning). All pen and paper measures would be entered and coded into spreadsheets and subsequently analyzed. This workshop was scheduled to take place on March 30<sup>th</sup>, 2020.

However, schools in Quebec were closed down in an effort to curb the spread of COVID-19 on March 16<sup>th</sup>, 2020. Initially, this closure was expected to last for two weeks. All in-school activities for children and teachers were canceled, including pedagogical days. It became clear that closures would last beyond two weeks. Next, universities were also closed, and Tri-Council ethics approval was suspended for in-person data collection. Therefore, we pivoted to adapt our workshop into one that could take place on Zoom. We also adapted our measures so that the data could be collected online. We therefore worked quickly to (a) be able to implement our study

while adhering to the new safety guidelines set out by the federal and provincial governments, as well as the University and (b) still maintain the study design to collect the data and answer our research questions. For example, we remained cognizant of the fact that listening to a 3-hour lecture on a computer screen would likely not be as conducive to learning as an interactive workshop would be, which resulted in splitting the workshop into two separate sessions.

Unfortunately, the follow-up parts of this study that were designed to include classroom observations and child focus groups and interviews remained prohibited during the data collection phase, due to the COVID-19 pandemic.

## **Positive Classroom Literacy Environments: A Component of Reading Teacher Knowledge**

The importance of teacher knowledge as it pertains to the quality of reading instruction cannot be overstated (Cunningham et al., 2004; Piasta et al., 2009; Washburn et al., 2011). Teachers in the 21<sup>st</sup> century are tasked with applying evidence-based instruction into an ever-changing societal landscape. Therefore, knowledge that is comprehensive yet flexible is the most important component in teaching efficacy. Unfortunately, research indicates that teachers' reading related knowledge (RRK) is consistently low and without specialized training, it is unlikely to improve (Cunningham et al., 2004; Moats, 2009; Washburn et al., 2016). One understudied branch of teacher knowledge involves fostering reading motivation in older children (De Naeghel et al., 2016; Kozak & Martin-Chang, 2019). We argue that creating positive classroom literacy environments that espouse the importance of print exposure is critical in upper elementary school (see Guo et al. 2010 for preschool literacy environments). Ideally, teachers would acquire the knowledge to support reading motivation in their teacher certification programs (Joshi et al., 2009a). However, once teachers have entered the workforce, their knowledge can be further refined through ongoing professional development (Cunningham et al., 2015). Here, we explored whether an online professional development workshop could improve the teacher knowledge required to create positive classroom literacy environments.

### **Literacy environments in the home and classroom**

A child's first brush with literacy occurs in their Home Literacy Environment (HLE; Sénéchal & LeFevre, 2014). The HLE encompasses a child's physical surroundings, as well as the formal and informal literacy activities that take place at home (Sénéchal & LeFevre, 2014). A crucial component is the child's access to reading and writing materials, such as books (Johnson

et al., 2008; Sikora et al., 2019). The interactions with parents stemming from sharing books, are considered *informal* activities (Evans et al., 2000; Patel et al., 2020; LeFevre & Sénéchal, 1999). By contrast, teaching letter names and shared writing tasks between parent and child are considered *formal* literacy activities (Aram, 2005; Segal & Martin-Chang, 2019). When these resources and experiences are combined within a warm and playful setting, they form a positive HLE that can contribute to children's early literacy development (Burgoyne et al., 2018; Sénéchal, 2006).

Literacy experiences within the HLE lay the groundwork for reading acquisition, thus it comes as no surprise that ample experiences impact later reading (Sénéchal & LeFevre, 2014). Specifically, while formal literacy activities offer an initial advantage, more frequent informal activities, such as storybook reading, impact children's inclination to read as they grow (Sénéchal, 2006; Tremblay et al., 2020). Given that children come into the classroom from different HLEs, one overarching goal of early reading instruction is to level the playing field for all children (Callaghan & Madelaine, 2012; Sénéchal & LeFevre, 2001).

As the onus of reading instruction shifts from home to school, we argue the classroom literacy environment becomes an additional contributor to children's reading acquisition: twin studies have revealed that, even when accounting for genetic factors and a shared environment, small but nevertheless significant classroom effects account for variance in children's reading skill (Olson et al., 2014). This suggests that a skilled teacher and an optimally constructed classroom literacy environment has the potential to significantly improve children's reading abilities.

Skilled teachers are necessary to support children when mastering decoding, a formal skill, which involves merging sounds with letters. Decoding is complicated in languages like

English, where the sound-letter relationship is not necessarily one to one, therefore considerable attention in the early grades is rightfully directed towards explicitly teaching phonics (Ehri et al., 2001). Yet, oral language development, which begins in utero (Moon et al., 2012), continues to grow even as children acquire reading ability. In order for children to establish decoding and knowledge of spoken language, they benefit from expert formal and informal support.

Ideally, teachers are rigorously trained to help children in both of these domains. In working with 105 teachers from kindergarten through grade 5, Spear-Swerling and Zibulsky (2014) investigated instructional planning in relation to teacher knowledge. This study investigated how teachers' choices in planning for a two-hour lesson would relate their reading related knowledge, and how it would differ between grade levels. Findings showed that when teachers plan for upper elementary grades, less class time is allocated for phonemic awareness and phonics instruction. However, a parallel increase in time spent on vocabulary or reading comprehension activities was not observed (Spear-Swerling & Zibulsky, 2014). In other words, while it was expected that teachers spend less time on explicit decoding instruction in the later grades, this time is not reallocated for activities that support and further reading development in older children, such as teaching vocabulary or comprehension strategies (National Reading Panel, [NRP], 2000). Spear-Swerling and Zibulsky (2014) conclude that teachers require more knowledge about balanced literacy and best practice instruction, specifically in relation to the grade level they are teaching.

Consensus has been reached in teacher knowledge research, that knowledgeable teachers are better at providing code-based instruction (McCutchen et al., 2002; Piasta et al., 2009; Spear-Swerling & Zibulsky, 2014), which in turn is related to higher reading gains for their students (Podhajski et al., 2009). The same would be expected for higher-order skills, such as reading

comprehension (Meijer et al., 1999). Because teachers have such an impact on students, the classroom literacy environment should uphold both formal and informal skill development. Children also deserve a safe and welcoming environment in which they can practice their burgeoning reading skills.

Once children are literate, reading provides access to books and articles, which themselves contain general knowledge (Stanovich et al., 1995). In this case, children are reading to satisfy specific academic purposes, such as completing class assignments or reading assigned texts. However, reading also provides opportunities to view life from different perspectives, to be entertained, and to connect to fictional characters and other readers (Mar et al., 2011; Merga, 2017). Thus, the classroom must satisfy the different aspects of reading that can be both academically focused and pleasurable.

Interestingly, at the same time that academic reading is increasing, a sharp decline in reading motivation has been observed (Guthrie & Wigfield, 2000; Wigfield et al., 1998). This decline may have several sources: children are given less choice in reading materials, assigned novels become more complex, and the bulk of content is delivered via short non-fiction texts (Guthrie & Davis, 2003). Elementary school teachers are therefore responsible for many facets of reading development, both positive and negative. First and foremost, they must ensure that students become proficient readers (Ehri, 2014; Fuchs et al., 2012, Moats, 2009). Next, teachers are critical for delivering evidence-based instruction to the whole class and giving extra support to students who require more intensive remediation (RTI; Fuchs et al., 2012). Beyond that, research shows that selecting interesting classroom texts and assignments is also essential to promoting reading achievement (Kim et al., 2017b). Finally, there is an interpersonal element in positive literacy environments that builds community around literacy and actively celebrates

developing readers and writers (Morgan & Wagner, 2013). Research shows that if any of these components are mishandled, the repercussions could be significant into adulthood (Applegate & Applegate, 2004; Applegate et al., 2014; Martin-Chang et al., 2021).

Considering then, that feeling motivated to read becomes critical in these upper elementary years, when students can be deterred by unappealing reading assignments, DeNaeghel et al., (2016) invited twelve fifth-grade teachers to attend a professional development workshop rooted in self-determination theory (Ryan & Deci, 2002). Beyond teaching their participants how to implement strategies that support autonomy, competence, and relatedness. This workshop showed teachers how to provide instruction that supports: autonomy, for example by leaving students as much choice as possible when it comes to the texts they read; competence, by making sure students have the requisite skills to succeed; and relatedness, which is inherently social in nature, and ensures that students have opportunities to connect with each other and the teachers about the books they read. Students of participating teachers were assessed on their motivation to read before and after the intervention took place. The results were promising. Students whose teachers participated in the workshop showed increased autonomous reading motivation from pre- to post-test compared to the teachers in the wait-listed control group. Students of participating teachers reported finding greater pleasure, interest, and value in reading compared to wait-listed teachers (De Naeghel et al., 2016). DeNaeghel and colleagues (2016) thus demonstrated that when teachers are shown how to support and foster elements related to intrinsic reading motivation, the effects on students are positive.

Kim et al. (2017b) also conducted a study that focused on the importance of teacher skill in tailoring reading lists and activities to suit the needs of their students. Within this study, 109 teachers were trained in a summer reading program, with 55 teachers randomly assigned into a



condition in which they were able to make structured adaptations to the program. Adaptations included aspects such as matching their students to specific books, timing of the book distributions, and involving parents in the program. These adaptations allowed teachers to fit the program to their students and the communities in which they worked. Kim, Burkhauser et al. (2017b?) noted that the program resulted in higher student achievement and was more effective in the group that encouraged teacher adaptations compared to when the program is applied in a regimented fashion. However, for such an approach to be successful, teachers need to have expertise in the subject and know their students. For example, in order to recommend interesting books, teachers need to both know who they are teaching, and also what books are suitable.

Therefore, based on the existing research, we argue that a positive classroom literacy environment supports explicit teaching at the sublexical, lexical and text level, while simultaneously fostering a love for reading through promoting reading and writing. Most importantly, a positive classroom literacy environment has a knowledgeable, interested teacher at its core (Moats & Foorman, 2003; Podhajski et al., 2009). Extending the HLE (Sénéchal & Lefevre, 2001), we posit that classroom literacy environments consist of formal and informal activities facilitated by the teacher. In this case, formal activities support the consolidation of reading and writing skills. For example, explicit teaching, guided reading, spelling lessons and word work are all formal activities. By contrast, library visits, listening to audiobooks, free writing, or watching film adaptations of books are informal activities. These allow students to interact with captivating texts and celebrate the value and importance of reading with peers.

### **Teacher knowledge**

Reading for pleasure is beneficial for children, adolescents, and adults alike (Bavishi et al., 2016; Martin-Chang et al., 2020; Merga, 2017; Mol & Bus, 2011; Sparks et al., 2014).

Engaging in reading during one's free time has been linked to reading fluency, vocabulary, and reading comprehension (Martin-Chang et al., 2021; Mol & Bus, 2011, Sparks et al., 2014; Torppa et al., 2019). Interestingly, teachers who have higher levels of print exposure seem to reflect the eagerness to read in their classrooms (Kozak & Martin-Chang, 2019; McKool & Gespass, 2009). Conversely, one *cannot give what one does not have* (Applegate & Applegate, 2004; Binks-Cantrell et al., 2012). This phenomenon, known as the Peter effect, was coined to describe pre-service teachers' reading enthusiasm (Applegate & Applegate, 2004). If pre-service teachers are unenthusiastic about reading, it is more difficult for them to model positive reading behaviours for their students (Applegate et al., 2014; Nathanson et al., 2008). The parallels are clear: just as children should be encouraged to read for pleasure in elementary school, preservice teachers should also be encouraged to read for pleasure during their teacher training.

It is noteworthy that, in some studies, pre-service teachers discuss reading for pleasure as something that they enjoy but do not have time for (e.g., Spear-Swerling et al., 2020). However, other studies indicate that even if participants are currently unable to make time to read, having a positive outlook on reading shows positive benefits such as better verbal skills (Martin-Chang et al., 2021) and higher academic achievement (Mol & Jolles, 2014), even in the absence of concurrent reading habits. In other words, if pre-service teachers perceive a lack of time to dedicate to leisure reading during their studies, then perhaps opportunities to read – especially literature for Children and Young Adults (Kozak & Martin-Chang, 2019) – should be a part of their training.

Kozak and Martin-Chang (2019) investigated this idea and found that print exposure in pre-service teachers was related to performance on knowledge measures and instructional planning. Here, an Author Recognition Test was used to measure participants' familiarity with

Children's, Young Adult, and Adult fiction (ART-CYA; Kozak & Martin-Chang, 2019; adapted from Stanovich & West, 1989). Teacher knowledge was measured by a definitions task, that included literacy concepts, such as print exposure and the Matthew effects, and a task that evaluated classroom applications of best practice instructional practices such as literature circles or guided reading. Participants were also asked to plan for a week of Language Arts instruction in an activity grid. Results showed that participants who read more books written for young readers scored higher on the knowledge measure, but when knowledge and preservice teachers' own reading experiences were taken into account, it was only scores on the knowledge measure that predicted how much time was allocated for student reading.

Therefore, being well-read in and of itself is not sufficient. Teachers require in-depth knowledge about *why* reading for pleasure is so important and how to implement activities to support it (Wijekumar et al, 2019), and conversely, how to avoid inadvertently discouraging future readers. For example, a teacher who intends to use a read out loud method to help students connect with each other and the text would be better served using guided reading, which is built on opportunities to practice reading fluency in small groups with teacher guidance, rather than use the potentially humiliating round robin reading method, where students are put on the spot with no choice or practice (Ash et al., 2008; Fountas & Pinell, 2012). Similarly, a practice like literature circles (Daniels, 1994) is a reading practice that supports autonomy by giving students a choice in reading materials, but also scaffolds comprehension strategies by breaking down the different actions that are required for successful reading comprehension, such as summarizing, or questioning.

In short, three decades of research indicates that reading for pleasure should be a desired student outcome (e.g., Cunningham & Stanovich, 1997; Sparks et al., 2014). However, during

schooling, ill-equipped teachers can inadvertently deter children's desire to read, and unpleasant classroom reading experiences can have long-lasting effects (Martin-Chang et al., 2021).

Therefore, creating positive classroom environments that promote reading and writing activities merits inclusion as a sub-discipline of reading related knowledge in teacher training (Kozak & Martin-Chang, 2019).

### **Current Study**

Here, we conducted a professional development workshop entitled "For the Love of Reading: What we are doing well and what we can do better." The following questions guided the investigation: (1) what knowledge do teachers have about activities and literacy terms that can promote reading and writing in the upper elementary grades prior to the workshop? (2) how did they plan for instruction before the workshop? (3) can participating in a workshop on positive classroom literacy environments change teachers' knowledge? (4) can participating in this workshop change how teachers plan for instruction?

### **Method**

#### **Data collection**

The professional development workshop, which was originally planned to take place in person, was turned into a two-session online workshop and took place in March 2020 at the beginning of the COVID-19 pandemic. All measures were collected using an online survey platform. Varied scheduling was offered so as to meet the needs of teachers, who were now working from home. Additional participants were recruited using social media networks, and based on a large response, more sessions were held. Participants were grouped based on their availability. In total, 10 workshop sessions were held over the course of five months, each group

consisting of between 2 and 13 participants ( $M = 6.27$ ,  $SD = 3.88$ ). These were offered in the form of two consecutive day sessions of 90 minutes each, which took place 24 hours apart. Prior to the workshop, participants were sent emails with links to pre-test surveys. They were asked to complete all measures before attending the first session. Post-test measures were collected within 24 hours of the final workshop session. Treatment fidelity was ensured by the use of a script for each workshop session.

## **Participants**

A total of 58 participants attended at least one workshop session. Two participants were unable to attend both sessions. Two participants missed more than two pre-test measures. A further four participants failed to complete the post-test measures. Thus, all subsequent analyses included a sample of 50 teachers who attended both workshop sessions ( $n = 1$  male,  $n = 49$  female); 49 participants were white. Participants had a mean age of 39.48 years ( $SD = 8.93$ ) and an average of 12.89 years of teaching experience ( $SD = 7.72$ ). Of the 50 teachers included in the analyses, seven held master's degrees, while all other participants had bachelor's degrees ( $n = 43$ ). All participants were fluent in English.

## **Measures**

### ***Demographics***

The demographics questionnaire served to collect data about participants' age, years of teaching experience, education level, and ethnicity. Additionally, participants were asked about their dominant language(s) spoken.

### ***Teachers' print exposure***

**Author Recognition Test.** An adapted ART served as a proxy measure of participants' leisure reading habits over the lifetime (Kozak & Martin-Chang, 2019). In this task, participants were asked to identify the names of published authors from a list containing foils. The measure

was composed of two subscales. The ART-CYA contained 51 names of children's and Young Adult fiction authors. The ART-A contained 51 names of popular Adult fiction and non-fiction authors. The checklist also contained 51 foils; names of people who have not published books. All names were presented in alphabetical order by last name. In order to calculate a score for each of the two subscales, the proportion of foils checked (Foils check/Total foils) was subtracted from the proportion of authors correctly identified (e.g., CYA Authors checked/Total CYA authors). The same procedure was used to calculate scores on the ART-A ([Adult authors identified/Total Adult authors] – [Foils checked/Total foils]).

**Title Recognition Test.** In a parallel measure, teachers' familiarity with children's storybooks was assessed using a Title Recognition Test (TRT; Cunningham & Stanovich, 1991). Here, a list of storybook titles included 36 real children's storybook titles and 14 foils (Ladd et al., 2011 adapted from Martin-Chang & Gould, 2008). The score was calculated by subtracting the proportion of foils checked from the proportion of titles correctly identified ([Titles identified/total titles] – [Foils checked/total foils]).

### ***Teacher knowledge of instruction and literacy concepts***

**Definitions.** Teachers were asked to provide definitions of eight concepts related to reading instruction: phonemic awareness, literature circles, guided reading, Matthew effects, round robin reading, the Simple View of Reading, sustained silent reading, and print exposure. Answers were scored from 0-2 points for a total of 16 points. See Kozak and Martin-Chang (2019) for scoring details. To assess the reliability of scoring procedures, 20% of the data were coded by a research assistant who was blind to the purpose of the study. Inter-rater reliability for this measure was very good ( $\kappa = 0.87, p < .001$ ; as qualified by Laerd, n.d). See Appendix C for all scoring materials for the teacher knowledge.

**Vignettes.** Participants were asked to evaluate six teaching scenarios: conducting round robin reading, showing film adaptations of books, introducing different kinds of fiction, guiding small reading groups, observing Matthew effects, and reading books out loud. For example, “Mrs. Johnson is reading a novel with her fifth-grade class. She has each student read aloud, line by line, taking turns around the classroom. What do you think of this teaching practice?”

Answers were scored from 0-2 points to a total of 12 points. See Appendix C for scoring details. Inter-rater reliability for this measure was good ( $\kappa = 0.76, p < .001$ ; Laerd, n.d).

### ***Instructional planning***

Participants were asked to plan for a week’s worth of Language Arts instruction for Grade 5 students in an activity grid (Kozak & Martin-Chang, 2019). In order to complete the task, participants had to draw from their knowledge and expertise in planning for instruction. A list with some suggestions was provided but participants were free to plan for any activity (see Table 1). Participants were asked to specify an activity as well as the time spent on each activity, and the role of the teacher and the students in the lesson. Thus, the completed grids included an instructional plan for five days, with time allocations, and a short description of what students were doing in relation to the teacher.

Each completed grid was read several times and coded in multiple steps. The coding scheme was adapted from Kozak and Martin-Chang (2019). Given that the goal of this study was to investigate positive classroom literacy environments, some of Kozak and Martin-Chang’s (2019) categories were subsumed into broader categories in order to represent larger concepts. For example, the previous study distinguished between time students spent reading and time students spent listening to reading. Considering that literacy environments are made up of both formal and informal activities, these two categories were combined into an overarching one entitled “Activities that Promote Reading.” These included activities such as silent reading,

literature circles, book discussions or library visits. Similarly, activities that had a writing component were grouped into the category "Activities that Promote Writing". These included the use of spelling worksheets, journals, structured writing projects, or free writing. The current study categorized discussion-based activities with more nuance. For example, book discussions were grouped with Activities that Promote Reading, whereas general discussions with no discernible literacy content were categorised as "General Classroom Practices – not related to literacy". See Table 1 for the categories and descriptions. Out of 721 planned for activities, only 0.02% did not provide enough information to be sorted into the existing seven categories and were therefore scored as not codable. Inter-rater reliability was very good, ( $\kappa = 0.85, p < .001$ ; Laerd, n.d). See Appendix D for coding scheme.

**Table 1**

*Descriptions of Categories seen in Instructional Planning.*

<b>Category</b>	<b>Formal Literacy</b>	<b>Informal Literacy</b>
Activities promoting Reading	students reading assigned reading guided reading book talks reading in groups students take turns reading out loud	students reading self- selected texts library visits teacher read aloud book discussion listening to audio books
Activities promoting Writing	writing word work research comprehension worksheets	journal writing free writing



	doing dictionary work	
Entertainment		watching movies art activities games
Explicit teaching	mini lessons lectures grammar lessons	
General classroom practices (Non-literacy)	NA	NA
Assessment	N/A	N/A
Transitions	N/A	N/A

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### **Intervention**

The first part of the workshop on Day 1 started with an overview of research regarding reading acquisition (e.g., Alexander, 2005; Ehri, 2014; Gough & Tunmer, 1986; Shanahan 2006), print exposure (e.g., Cunningham & Stanovich, 1997; Stanovich, 1986), reading motivation (Wigfield & Eccles, YEAR), and self-determination theory (e.g., Ryan & Deci, 2000). The role teachers can play in fostering positive literacy environments was also discussed (e.g., De Naeghel et al., 2016; Kozak & Martin-Chang, 2019). Therefore, the workshop delivered the content required to be successful in completing the knowledge measures was covered within this session. On Day 2 of the workshop, these theoretical perspectives were reviewed within the context of the classroom. Notably, planning for instruction was not discussed in the workshop, therefore completing the Activity Grids required generalizing knowledge gained from the workshop to a practical activity. See Appendix E for intervention script.

## Procedure

The pretest measures were given in the following order: demographics, ART-CYA (Kozak & Martin-Chang, 2019), TRT (Kozak & Martin-Chang, 2019 adapted from Cunningham & Stanovich, 1991), the language arts activity grid (Kozak & Martin-Chang, 2019) the definitions and vignettes tasks (Kozak & Martin-Chang, 2019). After the workshop, the post-test survey consisted of: language arts activity grid, definitions, and vignettes and were administered in that order.

## Results

### Pre-test analyses

The first research question examined teachers' baseline knowledge of positive classroom literacy environments before participating in a professional development workshop. Regarding their own reading experiences, participants scored high on all three measures of print exposure. A one-way repeated measures Analysis of Variance (ANOVA) showed that there was a significant difference between scores on the three tasks,  $F(2, 98) = 12.75, p < .001, \eta_p^2 = .21$ . Post-hoc comparisons with Bonferroni corrections in place determined that teachers' familiarity with children's storybook titles (TRT  $M = .39, SD = .13$ ) was significantly higher than their familiarity with Adult and Children's/Young Adult authors (ART-A  $M = .30; SD = .81$ ; ART-CYA  $M = .32, SD = .17$ ). The scores on the ART-A and ART-CYA did not differ.

Before the professional development workshop, the teachers on average scored 43% ( $SD = 13.80$ ) on the definitions task, indicating that they struggled to define the eight literacy terms they were asked about (phonemic awareness, guided reading, round robin reading, literature circles, silent reading, print exposure, teacher read alouds, and the Matthew effects). The large range (13% to 75%) indicated that some teachers completed this task with more ease than others.

As would be expected, teachers were better at evaluating snapshots of classroom practices as capture by the vignettes task. Here, participants scored an average of 76% at pretest ( $SD = 17.2$ ). Once again, the large range (17% to 100%) suggested a wide variation among teachers in performance on this task. A  $t$ -test showed that when participants were asked to discriminate between favourable and unfavourable classroom practices within the vignettes, they were far more successful than when asked to produce definitions,  $t(46) = 12.25, p > .001, 95\%$  CI [.27, .38],  $d = 1.83^2$ . It is worth noting that despite the relatively high scores on the Vignettes task, 20% of the teachers nevertheless evaluated round robin reading to be a favourable teaching practice, despite all research indicating the contrary.

Turning our attention to the second research question, regarding how participants planned for instruction at pre-test, a one-way repeated measures ANOVA was carried out, with the five categories of instructional planning as the independent variable and minutes allotted per category as the dependent variable; two categories of instructional planning were excluded from these and all further analyses because participants only allocated one minute or less per day for each (Assessment  $M = 1.00, SD = 2.63$ ; Transition  $M = .04, SD = .29$ ). The ANOVA showed that teachers did not allocate time equally among categories,  $F(4, 160) = 20.1, p < .001, \eta_p^2 = .33$ . A simple main effects analysis with Bonferroni corrections in place revealed that the three categories that were allotted the most time specifically, General Classroom Practices, Activities Promoting Writing, Activities Promoting Reading, did not significantly differ from each other, all  $p$ 's  $> .60$ . However, they were all significantly different from time dedicated to Explicit Teaching and Entertainment, all  $p$ 's  $< .001$ . No other pairwise comparisons were significantly

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<sup>2</sup> The patterns remain significant when a non-parametric Wilcoxon signed-rank test was run to account for the skewed data.

different,  $p$ 's > .60. See Table 2 for the mean number of minutes allocated for each of the five categories.

**Table 2**

*Mean minutes allocated per category at pre- and post-test*

Instructional planning minute allocation per Category	Pre-test	Post-test
	<i>M (SD)</i>	<i>M (SD)</i>
Activities promoting Reading	93.85 (69.73)	127.73 (65.06)
Activities promoting Writing	115.96 (57.15)	103.62 (57.15)
Entertainment	25.29 (35.13)	26.22 (35.44)
Explicit teaching	37.13 (32.32)	36.71 (38.12)
General classroom practices (Not literacy related)	90.63 (68.09)	64.38 (45.70)

### **Post-test analyses**

Our third research question sought to answer whether participating in a professional development workshop on reading could increase teachers' knowledge of activities and literacy terms that can promote reading and writing in the upper elementary grades, as measured by the definitions and vignettes tasks. At post-test, teachers improved from 43.0% ( $SD = 13.80$ ) to 67.32% on the definitions task ( $SD = 12.77$ ). Although this number suggests that there is still room for improvement, a qualitative appraisal of the data indicated that the success rate increased for each of the eight items from pre- to post-test (see Table 3). For example, at pre-test, the majority of teachers scored zero points when defining Matthew effects (66%), and print

exposure (56%), indicating that they had no knowledge of these concepts. However, after participating in the workshop, the number of participants scoring zero points on these definitions decreased (Matthew effects = 2%; print exposure = 2%). The same pattern was not found in post-test scores on the vignettes task ( $M = 78.53\%$ ).

**Table 3**

*Raw number of participants who scored zero on each item on the Definitions task.*

Item	Number of participants who scored 0	
	Pre-Test	Post-test
Phonemic Awareness	6	4
Literature Circles	4	0
Guided Reading	5	2
Matthew effects	33	1
Round Robin reading	6	0
The Simple View	43	24
Sustained Silent Reading	6	1
Print Exposure	23	10

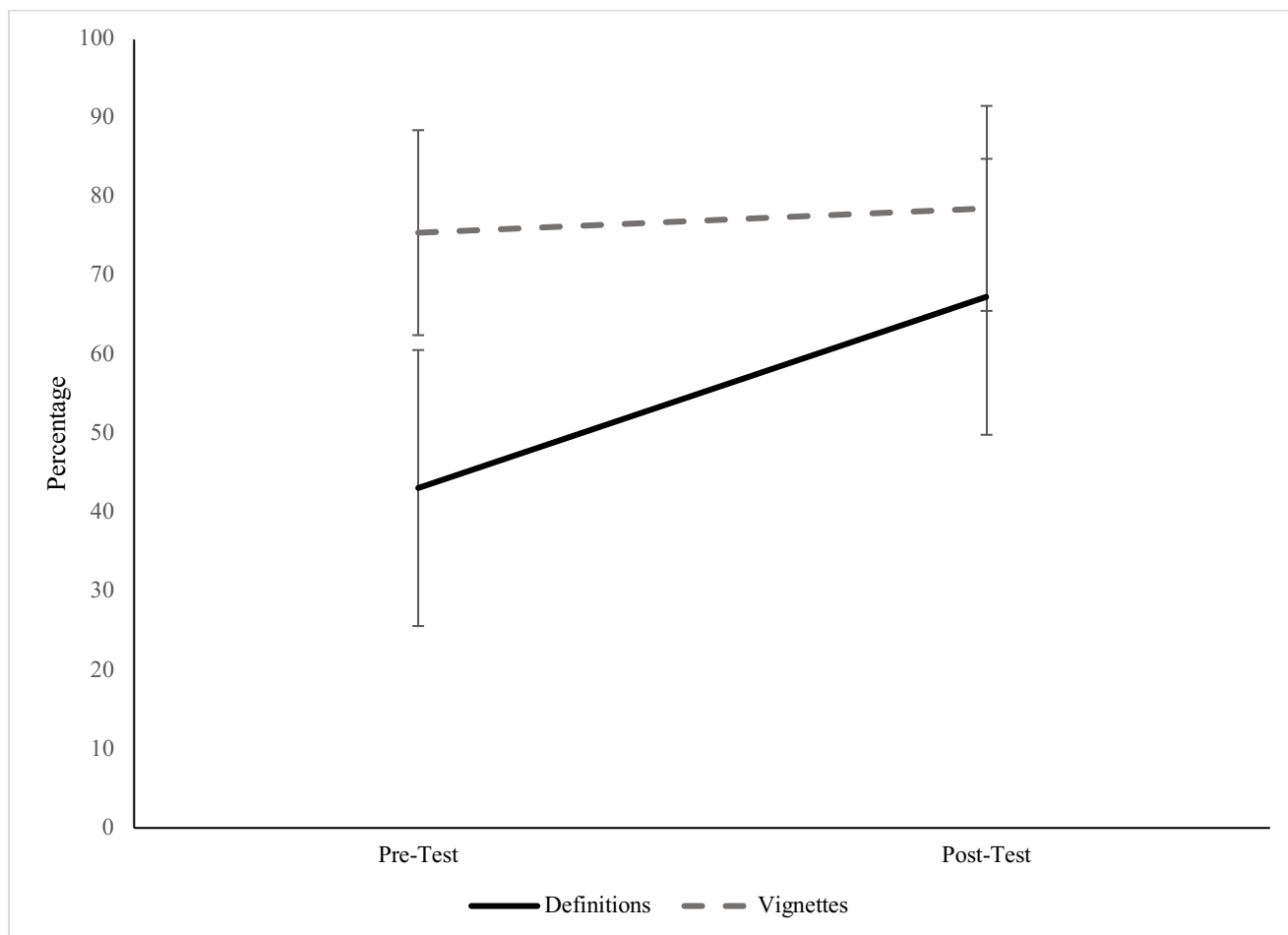
Note.  $N = 50$ .

These observations were confirmed by a 2 (Pre-Post) x 2 (Knowledge Measure) repeated measures ANOVA. There was a significant main effect of Pre-Post,  $F(1, 46) = 20.1, p < .001, \eta_p^2 = .48$ , and a significant main effect of Knowledge Measure  $F(1, 46) = 52.12, p < .001, \eta_p^2 = .53$ . These main effects were qualified by a significant interaction between Pre-Post and Knowledge Measure,  $F(1, 46) = 20.1, p < .001, \eta_p^2 = .48$ . As illustrated in Figure 1, a simple main effects analysis with adjusted alpha of .025 (.05/2) showed that participants significantly

increased their scores on the Definitions task from pre- to post-test. The score on the Vignettes task did not significantly change from pre- to post-test,  $p = .35$ .

### Figure 1

*Pre- and post-test scores on the Definitions task and Vignettes task (in percentage)*



*Note.* Error bars represent standard deviations

Finally, to answer our fourth question, whether participants significantly changed how they planned for instruction after participating in the workshop, a 2 (Pre-Post) x 5 (Category) within-subjects ANOVA was run. See Table 2 for means and standard deviations. There was a significant main effect of Category,  $F(4, 46) = 44.29, p < .001, \eta_p^2 = .49$ . As expected, there was no significant main effect of Pre-Post  $F(4,46) = 1.64, p = .21, \eta_p^2 = .03$ , because participants

were instructed to plan for the same amount of total minutes at pre- and post-test. The interaction between Pre-Post and Category was, however, significant,  $F(4,46) = 7.46, p < .001, \eta_p^2 = .14$ .

Simple main effects analysis between the Categories at pre- and post-test corrected alpha levels ( $.05/5 = .01$ ), revealed that difference in planning only remained significant from pre- to post-test for the Activities promoting Reading,  $t(47) = -3.75, p > .001, 95\% \text{ CI } [-53.63, -16.17], d = -.23$ .

This suggests that after participating in our workshop, only the amount of time allocated for Activities Promoting Reading increased significantly. No other pairwise comparisons were significant, see Table 4.

**Table 4**

*Results of simple main effects analysis examining pair-wise comparisons of Category variables from pre- to post-test*

Categories	Pre-test		Post-test		$t(49)$	$p$	Cohen's $d$
	$M$	$SD$	$M$	$SD$			
Activities promoting Reading	93.85	69.73	128.73	65.06	-3.75	< .001	-.54
Activities promoting Writing	115.96	57.15	107.43	55.71	1.10	.28	.16
General classroom practices (Not literacy related)	90.63	68.09	64.20	46.32	2.46	.02	.35
Entertainment	25.29	35.13	26.22	35.44	-.53	.60	-.08
Explicit Teaching	37.13	32.32	26.22	35.44	.36	.71	.05

*Note.* Corrected alpha level was set to .01

## Discussion

The elementary school classroom is an environment where teachers must be knowledgeable and flexible to meet the everchanging needs of their students . The consequences of falling short are dire (Piasta et al., 2009), therefore, it is important to provide teachers with the knowledge necessary to create positive classroom literacy environments, beginning with the scientific background and encompassing practical applications (Moats, 2014; Washburn et al., 2011). This study sought to determine if participating in a professional development workshop could change teacher knowledge of positive classroom literacy environments and if workshop participation was also reflected in how teachers planned for instruction.

We propose that an extension of the Home Literacy Environment (Sénéchal & LeFevre, 2014), can be fruitful in the classroom. Much like literacy experiences in the home, the activities implemented in positive classroom literacy environments are instrumental in children's optimal reading development (Nathanson et al., 2008). First, teachers must be proficient at planning and implementing formal literacy activities to ensure that children attain mastery of reading and writing skill (Wijekumar et al., 2019). However, to guide children on the road to becoming an avid reader, teachers must also be skilled at designing informal literacy activities that engage, excite and motivate children (Ryan & Deci, 2000). Together, a positive classroom literacy environment supports skill development of and emotional connection to the task in question: reading.

Prior to participating our workshop, with the title "For the Love of Reading: What we are doing well and what we can do better," teachers came in with reading experience and classroom expertise. The first goal of our investigation was to capture a picture of how much teachers know about optimal classroom literacy environments. In part, we were interested in teachers' own



reading experiences: how familiar were they with popular authors in general, and specifically, popular authors who for children and adolescents? Teachers' print exposure merits inclusion under the umbrella of RRK because teachers who read more might be better positioned to guide children to interesting and personally relevant books (Ivey & Johnston, 2013; Kim et al., 2017; Morgan & Wagner, 2013). Our data show that participants were more familiar with children's storybooks than with authors who wrote for a slightly older audience of age 9 and up. This indicated that teachers had plentiful experiences with reading to children but were perhaps less equipped to recommend popular works of fiction to readers who have graduated beyond storybooks. It is however notable, that compared to previous work in this field (Kozak & Martin-Chang, 2018) our participants had higher print exposure scores than pre-service teachers in previous work, indicating that they were better read as a whole. Specifically, pre-service teachers who were administered the same ART scored .16 on the ART-CYA (Kozak & Martin-Chang, 2019), whereas participants scored .32 in this study, suggesting that they recognized double the amount of authors. This is heartening, because as Kim et al. (2017) found, when teachers make adaptations to reading programs and tailor books to their students, their students scored higher on measures of reading comprehension than students, whose teachers did not make personalized recommendations. It is clear that this skill is contingent on both knowing one's students and knowing many books. We therefore contend that familiarity with literature written for children, both young and older, is an important part of RRK, and an important tool in structuring informal literacy activities in the classroom environment.

Before the intervention, we examined teacher knowledge about classroom practices and literacy concepts via two tasks, because while being a reader may be a beneficial attribute, is not enough to be a good teacher of reading. When participants were asked to evaluate classroom

practices within written vignettes, they performed quite well, though still leaving some room for improvement. For example, 10 participants considered round robin reading to be a positive activity, which is not supported by research (Ash et al., 2008). This finding is notable, because in a sample of self-selected, professional trained, well-read teachers, one fifth of participants nevertheless considered round robin reading to be an adequate classroom practice despite the fact that round robin reading has been found to be a harmful reading practice. While this may seem perhaps a small finding, practices such as round robin reading can undermine the other positive activities that might be happening in the classroom. As stated by Ash et al. (2008), “It seems that having teachers understand that RRR [round robin reading] is a highly ineffective strategy is necessary, but not sufficient,” (p. 97). However, our intervention succeeded in decreasing the number of teachers who considered round robin reading an adequate practice, from 10 participants to zero. Therefore, discussions around positive classroom literacy environments must also include conversations about negative practices, and how these can be replaced by better ones.

In a task parallel to the vignettes, participants defined literacy concepts that are necessary to teaching reading. We asked about concepts such guided reading, a formal literacy practice that scaffolds children’s reading fluency in small, homogenous groups (Fountas & Pinnell, 2012), and print exposure (Cunningham & Stanovich, 1997), the scientific study of the effects of reading for pleasure, which can be considered as an informal activity. Participants scored a failing grade of 43% on the definitions measure at pre-test. This is in line with other research that has revealed low teacher knowledge scores across the board, whether assessing knowledge of print exposure (Kozak & Martin-Chang, 2019), or of basic language constructs such as phonemic awareness or morphology (Moats, 1994; 2014; Washburn et al., 2011). The

implication is clear in that both teacher training (Joshi et al., 2009a), and professional development (Cunningham & O'Donnell, 2015) must rise to the occasion of improving teacher knowledge both before and after teachers enter the field.

This supposition was reflected in how participants planned for instruction before participating in our workshop. It should be noted that the pre-test instructional plans indicated that our sample was quite skilled at planning for instruction. At pre-test, our teachers dedicated the majority of class time —almost two hours per week— to Activities that Promote Writing. This is to be expected, because students in the upper elementary years are likely to have acquired the ability to write and are now spending class time honing that skill. In other words, the time that might have been devoted to teaching writing mechanics in the earlier grades could be dedicated to activities that extend students' basic literacy skills in Grade 5. However, this did not seem to be the case for Activities that Promote Reading (Spear-Swerling & Zibulsky, 2014). Teachers dedicated fewer than 20 minutes per day to both formal and informal activities that promote reading. Reading is a skill that, like writing, requires practice and exercise in order to consolidate (e.g., Ehri, 2015).

The amount of time teachers have each week face to face with their students is finite, and this finite time must be divided over different subjects. Therefore, it makes sense that teachers must make decisions about where they chose to focus class time. We understand why especially informal literacy activities, such as silent reading or library visits might be overlooked in favour of formal activities. But we also believe that these informal activities, when executed by expertly trained teachers can make a difference between whether a child becomes an engaged, avid reader or an unmotivated non-reader (DeNaeghel et al., 2016; Nathanson et al., 2008).

Teachers hold considerable power and long-lasting influence in how adults remember reading in school as a child (e.g., Applegate et al., 2014; Martin-Chang et al., 2021; Morawski & Brunhuber, 1995). Research on reading for pleasure specified that participants who do not enjoy reading as adults report that they had uninteresting instruction, boring books, or activities that killed the joy of reading in their formative schooling years (Applegate et al., 2014; Martin-Chang et al., 2021). However, we believe that the opposite might be true: enthusiastic readers are more likely to talk about enthusiastic teachers who are adept at “using extensive [literary] discussion as a motivational strategy at all levels, from elementary to university education” (Nathanson et al., 2008, p.319). Therefore, the benefits of positive classroom literacy environments can be wide-reaching.

While participants began our workshop with low scores on the definitions tasks and satisfactory scores on the vignettes task, our results indicate that our workshop was successful in deepening knowledge of positive classroom literacy environments and teaching strategies that support these. Specifically, an increase of teachers’ scores on the definitions suggested that professional development is indeed an important avenue to consider when examining how to improve teacher knowledge. It has been established that university programs that train teachers often miss the mark when it comes to transmitting knowledge about concepts that are integral in implementing balanced literacy programs (Joshi et al., 2009; Shanahan, 2006; Washburn et al., 2016). Our data add to this finding by suggesting that teacher training might also fail to transmit knowledge about the formal and informal aspects of classroom literacy environments, and how to ensure that the environment is a positive one. More importantly, our data also suggest that knowledge about classroom literacy environments can be increased through a professional development workshop that was grounded in evidence-based research.

Crucially, participating in our workshop also changed how teachers planned for instruction at post-test, with a significantly greater portion of time allocated for Activities that Promote Reading than initially planned for at pre-test. Here, after the workshop, teachers planned for almost 35 more minutes per week of activities such as book discussions, silent reading, library visits, or teacher read alouds than at pre-test. While this might seem small when conceptualized at seven minutes per day, it must be considered that for some children, these seven minutes are the only minutes per day in which reading is practiced (Allen et al., 1992). Notably, an increase in minutes dedicated to Activities that Promote Reading did not come at a cost of minutes dedicated to writing activities. Examining the means, our data suggest that perhaps time dedicated to non-literacy related discussions were reallocated to formal and informal activities that promote reading, though further work is needed to elucidate that relationship.

Taken together, our findings show that learning about positive classroom literacy environments through a workshop that not only recommended classroom applications but taught teachers about reading science resulted in an increase of knowledge, as well as time dedicated to Activities that Promote Reading. We would like to highlight that while scores on evaluating teaching practices did not change from pre- to post-test, teachers' abilities to provide definitions of practices and research terminology did. This makes a case for the importance of training teachers in reading research and relating research findings to classroom applications. Optimally trained teachers are therefore better equipped to plan for the informal and formal activities on which positive classroom literacy environments are built.

Our study also captured a snapshot of teachers' instructional planning abilities in upper elementary grades before and after participating in a workshop that taught them about positive

classroom literacy environments, with a focus on reading. Our sample consisted of teachers who were well read, and at pre-test seemed to be adept at instructional planning, and capable of evaluating common classroom practices, but nevertheless showed low knowledge scores when assessed on literacy terms and concepts that support reading instruction. At pre-test, an average of 97 minutes per week were dedicated to general classroom practices that were unrelated to literacy instruction. In other words, when asked to plan freely for a week's worth of language arts instruction, teachers nevertheless dedicated almost 20 minutes per day to general classroom practices. It is our hope that increased knowledge of positive classroom literacy environments might give teachers permission to reallocate some of these minutes to formal and informal activities that contribute to students' positive perceptions of reading.

The role that teachers can play in the development of readers and writers of tomorrow cannot be understated. We would like to underscore the importance of training teachers to be skilled at providing explicit, research-based instruction, also considered formal activities, while also highlighting the importance of fostering positive environments in their classrooms that foster and develop a love for literacy in their students, sometimes consisting of informal activities. In other words, there is time and need for activities that encourage reading on all levels, both in terms of skill development and motivation.

### **Limitations and future directions**

The current study falls in line with extant research on teacher knowledge, in that teachers who are expertly trained are better equipped to provide effective reading instruction. However, there are some limitations to consider. First, our study was conducted at a unique time for participants and researchers alike, thus our sample was highly self-selected. In other words, the workshop was originally scheduled to take place during a pedagogical day, when students stay

home and teachers are expected to participate in professional development, but here, our teachers were at home and decided to participate because they were personally motivated to do so. As such, our sample was made up of highly interested teachers, who chose to participate in professional development, even when it was purely elective. Future work should investigate how a more diverse sample learns from participating in a workshop.

Second, our study did not capture classroom observations. A future study could lend depth to our findings by collecting observation data from teachers at work in their classroom literacy environments. By extension, future work could also involve student outcomes to answer the question: do students see a difference in their teachers after they have attended our workshop?

Third, our workshop had a focus on activities that promote reading. Literacy instruction also includes writing, therefore a future study should investigate how a workshop about writing instruction might impact teacher knowledge, and planning for instruction. Similarly, a study on explicit teaching strategies would also add to the exploration of positive classroom literacy environments.

Finally, a longitudinal study might lend a more in-depth perspective on how professional development impacts teachers' instruction in the long term. Further, a future study could investigate how a long-term partnership between researcher and teachers impacts the quality of classroom literacy environments.

### **Implications**

Though reading for pleasure takes place in spaces outside the four walls of the classroom, it is crucial for teachers to be aware of the powerful messages they explicitly and implicitly convey to their students (Appelgate et al., 2014). Teachers who are uninterested or unenthusiastic

about reading might face difficulty when constructing positive classroom literacy environments that highlight the importance and value of being a reader (Nathanson et al., 2008). By contrast, teachers who know more about the importance of reading might be better equipped to design formal and informal literacy activities within their classrooms. However, all teachers must be equipped with the knowledge and training in order to provide support for all students (Moats, 2009; Washburn et al., 2011). Reading is not just a necessary tool in everyday life, it also enriches it (Mar et al., 2011; Merga, 2017; Stanovich & Cunningham, 1992). This is at the core of positive classroom literacy environments: the knowledge that reading for pleasure is a worthwhile cause. Teachers who themselves are not avid readers can nevertheless be taught about why their students should be encouraged to meaningfully engage with books.

It is our hope that the research presented here might encourage some teachers to venture into the exciting world of children's literature with their students and allow time for both formal and informal literacy activities. Further, our goal is for teacher training to, in a sense, give future teachers permission to allocate valuable class time for activities that might seem less structured. Time spent reading is not wasted time, and a positive classroom literacy environment that recognizes and embraces the value of reading could leave long-lasting impressions on children, and might create avid readers in the long term.



CHAPTER 8  
PRE-SERVICE TEACHERS, TEACHERS AND POSITIVE CLASSROOM LITERACY  
ENVIRONMENTS

**General Discussion**

I began working on this thesis with an interest in print exposure. I wanted to understand how print exposure might impact teachers. I wanted to know how much they read for pleasure themselves and how much they knew about it as a scientific concept. Several research questions guided these investigations. For example, I asked whether reading for pleasure was associated with academic performance, and furthermore, whether it was associated with teaching performance. I wondered if it was enough to be a reader, or whether teachers needed to understand the science behind why reading is important. Finally, I asked whether teachers can be taught about print exposure and if so, whether it would impact how they planned for instruction. However, although the exact questions varied, the common thread was the role print exposure played in optimal classroom practice.

Existing research had demonstrated that there is a notable and concerning lack of enthusiasm for reading among teacher candidates (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008). After all, many adults do not read (CBC Radio, 2021), despite the multitude of benefits reading offers (see and Mol & Bus, 2011 for review). Thus, it makes sense that this lukewarm attitude towards reading is found within the pre-service teacher population as well. There is, however, a paucity of research that investigates what the reasons might be. A new study suggests that motivation and deterrents play a significant role in print exposure (Martin-Chang et al., 2021). Results here indicated that when participants stated that they did not enjoy reading, this was negatively related to their print exposure and also their

verbal abilities (Martin-Chang et al., 2021). A detailed scale instrument – the Predictors of Leisure Reading - was used to determine what constitutes motivations and obstacles to read. Pertinently, two of the six items in the scale that measured the factor *Do Not Enjoy Reading* were “I often don’t read because being asked to analyse books in high school made reading less pleasurable,” and “I often don’t read because being assigned things to read in high school ruined it for me,” (Table 3, Martin-Chang et al., 2021). In other words, adults who stated they did not enjoy reading included memories from language arts classes as reasons why they felt negatively about reading.

These findings are in line with similar work done with teachers and pre-service teachers. The cause for concern is that if many preservice teachers consider themselves as unenthusiastic readers, and remember their own unenthusiastic teachers, will they be equipped to break this negative cycle? A series of survey studies investigated this idea. Applegate and Applegate (2004) found that 54.3% of their 195 pre-service teachers qualified as unenthusiastic readers; 23% of the sample cited negative school experiences such as reading boring books or being taught by teachers who failed to capture their interest as reasons. Similar results were reported by Nathanson et al., (2009), and Applegate et al., (2014). Therefore, there may well be many teachers who do not enjoy reading because their teachers were unable to convey an interest in reading. Thus, teachers’ own experiences with reading seems like a concept that requires further investigation.

Piasta et al. (2009) found that when it came to explicit code-based instruction, the time expertly trained teachers spent on decoding instruction with their students was positively associated with student outcomes. However, when students learned from unknowledgeable teachers, time spent on decoding instruction was negatively associated with student outcomes. In

other words, if the quality of instruction - as it relates to teacher knowledge - is low, it harms children's reading development. I wondered if the same could be said for reading instruction in the upper grades. As supposed by the Peter effect (Applegate & Applegate, 2004), can poorly trained teachers discourage children from reading for pleasure? I therefore became curious if learning about print exposure would impact pre-service teachers' knowledge of best practice instruction and literacy concepts.

In Study 1, I set out to bridge the gap between research and practice by informing pre-service teachers about the importance of print exposure, and highlighting the significant influence teachers have in creating passionate readers. The workshop I wrote for this study focused on print exposure, and the results showed that I significantly increased pre-service teachers' knowledge about print exposure, and related concepts such as the Matthew effects (Stanovich, 1986), literature circles (Daniels, 1994), or sustained silent reading (Garan & DeVoogd, 2008). I also measured pre-service teachers' abilities to evaluate existing classroom practices such as round robin reading (Ash et al., 2009) and guided reading (Fountas & Pinnell, 2012), and I examined how pre-service teachers, who had not yet taken courses on language arts instruction, planned for instruction before and after participating in the workshop. The results showed that participating in my workshop significantly increased pre-service teachers' knowledge of print exposure, and further, that an increase in knowledge was also related participants planning more time for students to read at post-test.

While more time reading in the classroom is clearly not the only answer – and in the case of poorly trained teachers, perhaps not the answer at all (Piasta et al., 2009) - in-class reading might be the start of more opportunities for children to engage with books (Ivey & Johnston, 2013), and support students' competence in reading, allow for autonomy in book choice, and

occur with an environment that encourages meaningful engagement between children and books, and readers (Alexander, 2005; Ryan & Deci, 2000), and provides continuing support for readers who struggle with decoding in the upper elementary grades (e.g., Simmons et al., 1995).

Given my sample of pre-service teachers, the findings of this study suggest a need for teacher education to include the topic of print exposure and the importance of reading for pleasure as a part of reading related knowledge within university curricula. A lack of existing research on teacher knowledge of print exposure shows that there is a need to include the science of reading for pleasure within reading related knowledge, and the findings of Study 1 show that this could carry implications for class instruction. This finding is especially critical because the science of print exposure is clearly not being covered elsewhere, such as in the textbooks I examined. Learning about this field of research seems to be important for teachers in helping them choose classroom activities that will support their students to becoming capable, and perhaps interested readers.

Study 1 set the stage for Study 2 because in the process of developing the coding schemes for the first study, I realized that I needed to reassess how I viewed instructional practices. For example, in Study 1 I differentiated between students reading themselves, and students listening to reading. However, it became clear that listening to reading can be a valuable informal literacy activity because it can help develop a sense of relatedness among the teacher and students. Thus, activities that are not strictly hands-on reading experiences for children still play important roles in reading instruction. This is when I began to draw links between the formal and informal literacy activities in the classroom, and those previously established in the extensive literature examining the home literacy environment (e.g., Bingham et al., 2017; Evans et al., 2001; Sénéchal & LeFevre, 2001).

At roughly the same time that I was starting to design Study 2, I learned more about supporting reading motivation in schools through teaching practices rooted in self-determination theory (Ryan & Deci, 2000). For example, De Naeghel et al.'s work (2016) examined how activities that meet students' needs for autonomy, relatedness, or competence can support reading motivation, and by extension can further support reading for pleasure. This way of conceptualizing classroom instruction made it clear that activities such as listening to audiobooks (e.g., Boushy & Moser, 2014), and building communities around reading (e.g., Ivey & Johnston, 2013) are all important components in fostering positive reading experiences for children.

This process of reflecting on the data I collected in Study 1, and thinking about how the findings could be practically applied in classrooms led me to coin the term *positive classroom literacy environments*. In positive classroom literacy environments, engaged and knowledgeable teachers design formal and informal literacy activities that support children in acquiring feelings of competence when reading, while also allowing for autonomy, and opportunities to exercise relatedness. Thus, while Study 2 still very much contained a focus on print exposure, I expanded the workshop content to consider the literacy classroom as an environment that is made up of formal and informal literacy activities.

Put succinctly, when creating the content of the workshop for Study 2, I drew from different areas of reading research. I covered reading development across age (e.g., Alexander, 2005; Ehri, 2015; Gough & Tunmer, 1986), the various benefits reading for pleasure in children and adults (e.g., Bavishi et al., 2018; Martin-Chang et al., 2021; Sparks et al., 2014), specifically print exposure in teachers (e.g., Kozak & Martin-Chang, 2019; McKool & Gespass, 2009; Spear-Swerling et al., 2014), as well as reading motivation and self-determination theory (e.g., Ryan & Deci, 2000; Wigfield & Guthrie, 1997), and the role teachers play in encouraging or even

detering children from becoming readers (e.g., Applegate et al., 2014; Nathanson et al., 2009). In proposing the concept of positive classroom literacy environments, I suggest that these areas of reading research exist together under the same umbrella, and are integral components of teachers' reading related knowledge. This decision seemed to be supported by the conversations with experienced teachers that are discussed in Chapter 6.

Specifically, the focus groups from Chapter 6 were inspired by a study entitled *Research on the prevention of reading problems: Are kindergarten and first grade teachers listening?* (Bursuck et al., 2003). This title made me wonder if the opposite might be true: are researchers listening to teachers? My goal was to allow for input from teachers who have already garnered work experience to share their experiences, the practices they commonly used, and what resources or professional development content they would find helpful. Therefore, the workshop content was expanded to include commonly used classroom practices that teachers may already be familiar with but may be adapting in disadvantageous ways. For example, teachers commonly use literature circles (Daniels, 1994), a practice in which children are grouped based on what book they choose from a teacher curated list. The effectiveness of this practice is largely rooted in this element of choice, because the need for autonomy is met, and by working with like-minded peers, relatedness is also fostered. Each group meets regularly to discuss sections of the book, and each member takes turns to fulfill small roles that model good reading comprehension strategies. As gleaned from my focus groups, at times, teachers plan for *literature circles* but assign a class novel, removing the piece that supports autonomy (choice) and relatedness (grouped with like-minded peers). Thus, some practices were reviewed within the workshop in order to position them within classroom literacy environments as formal or informal activities – or both, depending on learning objectives.

Subsequently, some small methodological differences exist between Study 1 and Study 2. First, Study 1 used composite scores for both the print exposure measures and the knowledge measures, while Study 2 examined these separately. Study 1 was preceded by a published manuscript that closely examined the pre-test data of pre-service teachers, and in this study, each print exposure and knowledge variable was explored separately (Kozak & Martin-Chang, 2019).

Additionally, because the workshop content was expanded to include research on self-determination theory (Ryan & Deci, 2000), and how it relates to reading motivation in the classroom (De Naeghel et al., 2016) the definitions task was expanded in Study 2 to include two extra items: both the Simple View of Reading (Gough & Tunmer, 1986) and phonemic awareness (NRP, 2001) were discussed as integral to developing competence. Second, as mentioned above, while the instructional planning activity remained the same, the coding scheme was refined from Study 1 to Study 2. With a focus of print exposure in Study 1, it made sense to differentiate between time spent reading versus time spent listening to reading, but the workshop in Study 2 focussed on positive classroom literacy environments, that included more than research on print exposure, thus the categories needed to reflect a bigger picture as well

Regarding the print exposure measures, the ART and TRT are typically calculated as proportions to represent how many authors a participant correctly identified within a long list of authors, after controlling for foil-checking (Stanovich & West, 1989). This means that a maximum possible score of 1 (or 100%) in the ART represents a participant who correctly identified all of the authors and checked none of the foils. Other studies using ART scores with similar participants have found the following mean scores: Stanovich and Cunningham (1993) found a mean ART score of .24 in their sample of 268 undergraduate students; Martin-Chang & Gould (2008) found a mean ART score of .18 in their sample of 171 undergraduates; Moore and

Gordon (2015) found a mean ART score of .15 in their sample of 1012 undergraduate students. Similarly, pre-service teachers in Study 1 scored an average of .11 ( $SD = .09$ ) on a print exposure composite score that combined the ART-A and ART-CYA. However, it is noteworthy that teachers in Study 2 scored an average of 0.32 ( $SD = .16$ ) on this same composite measure. This difference was significant,  $t(149) = -10.09$ ,  $p > .001$ , 95% CI [-.24, -.16],  $d = -1.68$ . Thus, there is a clear difference between the teachers in Study 2 and the pre-service teachers in Study 1.

In part, this is likely related to the self-selection of participants in Study 2. Given that data collection occurred during the COVID-19 pandemic, all teachers who participated in the workshop from Study 2 did so because they were drawn to the content. By contrast, the pre-service teachers in Study 1 were recruited differently. While of course participation was elective, pre-service teachers were recruited from a teacher training program. It is therefore possible that the sample of teachers from Study 2 is simply very well-read. Nevertheless, participants in both studies improved their knowledge scores from pre- to post-test, and also changed how they planned for instruction after participating in either workshop.

Taken together, both studies show how the concept of positive classroom literacy environments was established. It was not enough to focus in on print exposure, because a language arts curriculum cannot be focused on simply reading for pleasure, it requires a balanced literacy approach (NRP, 2001). Children must also learn how to write which, while it was outside of the scope of the present thesis, should nevertheless be explored in more detail in future studies. The work done here will hopefully contribute to teachers' abilities to plan for instruction in ways that clearly support the mandated curriculum but also celebrate and value reading via formal and informal literacy activities



The findings across both studies carry significant implications for teacher training. First, teachers, both pre-service and in the field, should be trained and taught about the merits of print exposure, not just for their students but for themselves. Existing research is consistent in its findings that reading for pleasure enriches life in many aspects: cognitively (Cunningham & Stanovich, 1991; 1993; Wilson et al., 2002), socially and emotionally (Kozak & Recchia, 2018; Mar, Oatley, et al., 2006; Mar, Tackett et al., 2010), physically (Bavishi et al., 2018; Goldman & Manis, 2013), and academically (Acheson et al., 2008; Mol & Jolles, 2014). It is clear that children should be encouraged to read for pleasure, but I also posit that teachers need to read for pleasure too, in order to enrich positive classroom environments with their own enthusiasm for reading (Nathanson et al., 2008). While some work has begun to look at the importance of teachers being knowledgeable about books, both in the context of being better positioned to match their students to books (e.g., Kim et al., 2017), and in the context of academic performance within teacher training (e.g., Spear-Swerling et al., 2020) more work is required to investigate the depth in which print exposure might be beneficial to teachers.

Second, the two studies here show that reading related knowledge for teachers' upper elementary students is a fruitful and timely topic. The upper elementary years coincide with an observable decline in reading motivation around fourth grade (Schiefele & Löweke, 2017), and research has pinpointed that some contributing factors are the content and teaching practices of language arts classes in the upper elementary grades. Specifically, Wigfield and Eccles (1994) postulate that as the demands of school increase in the progression from Grade 1 through to the end of elementary school, children have less choice, for example in reading materials, and the relationships between students and teacher becomes less personal. A positive classroom literacy environment would target these two factors explicitly, through allowing choice of reading

material where possible (autonomy), and through setting aside time for readers to connect with each other, including the teacher (relatedness), in activities that can be formal, such as book report presentations, or informal, such as discussions about books being read after a silent reading period).

Establishing positive classroom literacy environments as a concept rooted in evidence-based research may give teachers permission to dedicate time to activities that might fall by the wayside because they are not necessarily assessed, or not formally part of the curriculum. The data collected here, specifically in Study 2, suggest that time devoted to Activities that Promote Reading at post-test did not take time from the equally important Activities that Promote Writing, or from Explicit Teaching. But the potential benefits of allowing for these informal and formal activities could be significant for students. Further research with students is required to support this speculation, but existing work indicates that when teachers are taught about strategies that promote reading motivations, students feel the benefits (De Naeghel et al., 2016).

### **Contributions to Knowledge**

My thesis contributes to knowledge in two ways. First, the findings of Study 1 suggest that print exposure should be considered as a component of teachers' reading related knowledge. Looking back on the five pillars of balanced literacy instruction outlined by the NRP (2001), print exposure supports the acquisition of vocabulary, oral reading fluency and reading comprehension strategies and is thus a useful knowledge base for teachers to have. Most importantly, teaching preservice teachers about the importance of print exposure is reflected in how they plan for instruction, and is related to more time allocated for students to read during class time.

Second, extending on this notion, I posit that this knowledge of print exposure is part of a larger area of teachers' reading related knowledge, namely positive classroom literacy environments. Positive classroom literacy environments consist of formal and informal activities designed by expertly trained teachers, that support the explicit teaching of reading skill while also promoting reading and writing in order to foster a love for reading. Thus, a positive classroom literacy environment subsumes the research of print exposure as it pertains to teachers (e.g., Kozak & Martin-Chang, 2019), and self-determination theory (e.g., De Naeghel et al., 2016) in a larger framework of research that also includes the progression of reading development (e.g., Ehri, 2015), and the importance of providing positive experiences within classrooms to encourage reading for pleasure outside of the classroom (e.g., Martin-Chang et al., 2021).

### **Limitations**

The limitations of the research conducted here are discussed within each self-contained manuscript, but it bears addressing that this research was in part conducted during COVID-19 pandemic. Thus, Study 2 took place virtually from start to finish. It is therefore impossible to speak to the effect that workshop participation might have had on the students whose teachers participated in the workshop. The school closures in March of 2020, as well as the safety protocols that are still in place at date of submission unfortunately prevented me from conducting classroom observations. These would have enabled me to investigate how workshop participation might have transferred to teachers' classroom literacy environments, and second, working with their students using focused interviews would have given me a chance to see how children perceive classroom literacy environments.

### **Future directions**

It is clear that a positive classroom literacy environment includes more than reading. The focus of this thesis was reading, but both oral language skills (e.g., O'Connor & Michaels, 2019) and writing (e.g., Bingham et al., 2017) are crucial to language arts instruction. Future studies should therefore examine positive classroom literacy environments when examined within the context of research on oral skill development or writing development.

### **Conclusion**

In sum, with this work I aim to motivate teachers to structure positive classroom literacy environments that confidently and purposefully draw from research-based practices. This may require them reach beyond the classic titles and informational texts and activities that sometimes deter students from reading (see Jacobs et al., 2002). In terms of activities that promote reading, specifically, there are many avenues that can lead to creating a positive literacy environment. These include modeling an enthusiasm for personal reading habits (e.g., Nathanson et al., 2008), allowing for choice in both what to read, and at what pace to read it (e.g., Morgan & Wagner, 2013), providing opportunities for children to share about their reading experiences (e.g., Ivey & Johnston, 2013), to name just a few of the informal activities. Likewise, guided reading to support competence (Fountas & Pinnell, 2012), or explicit modeling of reading comprehension strategies (Ness, 2011) are some examples of formal activities. Together, these activities contribute to positive classroom literacy environments and have the potential to counteract the negative reasons adults remember for the demise of their interest in reading (Applegate & Applegate, 2004; Martin-Chang et al., 2021). Therefore, positive classroom literacy environments should find a place in teacher training, and professional development to ensure that reading instruction in the upper elementary grades elevates and uplifts young readers.

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## Appendix A

### Coding Materials for Study 1 (Taken from Kozak & Martin-Chang, 2019)

Scoring information on the ART-A authors

<i>Percent of adult authors correctly identified on the ART</i>			
Author	Percent identified	Author	Percent identified
V.C. Andrews	11.32	Elizabeth George	1.89
Isaac Asimov	9.43	Sue Grafton	2.83
Margaret Atwood	40.57	Andrew Greely	0
Jean M. Auel	0.94	John Grisham	23.58
David Baldacci	5.66	Alex Haley	0
Russell Banks	2.83	Frank Herbert	1.89
Carol Berg	5.66	John Jakes	0
Pierre Berton	2.83	E.L. James	36.79
Maeve Binchy	5.66	Wayne Johnston	0.94
Dan Brown	38.68	Erica Jong	0
Barbara Cartland	0	Robert Jordan	1.89
Noam Chomsky	32.08	Laurie King	0
Wayson Choy	1.89	Stephen King	86.79
Agatha Christie	57.55	Sophie Kinsella	22.64
Tom Clancy	22.64	Naomi Klein	2.83
Arthur Clarke	3.77	Dean Koontz	7.55
James Clavell	1.89	Judith Krantz	6.60
Jackie Collins	9.43	Louis L'Amour	1.89
Stephen Coonts	3.77	Margaret Laurence	1.89
Patricia Cornwell	7.55	Ursula LeGuin	2.83
Robertson Davies	1.89	Robert Ludlum	5.66
Jeffrey Eugenides	0.94	George R. R. Martin	21.70
Janet Evanovich	4.72	Ann Marie McDonald	4.72
Timothy Findley	4.72	James Michener	0.94

Martin Ford	2.83	Christopher Moore	4.72
Robert Fulghum	2.83	Michael Moore	12.26
Diana Gabaldon	2.83	Rohinton Mistry	0.94
Howard Gardner	11.32	Alice Munro	11.32

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*Percent of Adult authors correctly identified on the ART continued*

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Author	Percent identified
M. Scott Peck	0
Kate Pullinger	3.77
Daniel Quinn	3.77
Anne Rice	18.87
Mordecai Richler	14.15
Robert J. Sawyer	16.04
Sidney Sheldon	2.83
Carol Shields	2.83
Danielle Steel	41.51
Amy Tan	2.83
Miriam Toews	4.72
Alvin Toffler	3.77

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## Scoring information on the ART-CYA authors

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*Percent of Children's/Young Adult authors correctly identified on the ART*

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Author	Percentage identified
Judy Blume	64.15
Suzanne Collins	29.25
Sharon Creech	2.83
Roald Dahl	38.68
James Dashner	2.83
John Flanagan	6.60
Cornelia Funke	8.49
Stephen J. Gould	7.55
S.E. Hinton	17.92
Erin Hunter	0
Jeff Kinney	0.94
Gordon Korman	5.66
Madeline L'Engle	2.83
C.S. Lewis	60.38
Lois Lowry	11.32
Stephenie Meyer	59.43
L. M. Montgomery	13.21
Katherine Paterson	4.72
Gary Paulsen	3.77
Philip Pullman	1.89
Rick Riordan	5.66
J.K. Rowling	98.11
Rachel R. Russell	2.83
Lemony Snicket	30.19

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## Scoring information on the ART Foils

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*Percent of incorrectly identified foils on the ART*

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Foil author	Percent identified
Christopher Barr	1.89
Lauren Benjamin	3.77
Thomas Bever	0
Elliot Blass	2.83
Jennifer Butterworth	1.89
Katherine Carpenter	5.66
Suzanne Clarkson	4.72
Edward Cornell	5.66
W. Patrick Dickson	8.49
Robert Emery	2.83
Sheryl Green	3.77
Mimi Hall	0
Frank Kiel	1.89
Priscilla Levy	0.94
Alex Lumsden	0
Morton Mendelson	0
James Morgan	3.77
David Perry	0.94
Miriam Sexton	0
Destin Shaw	0.94
Robert Siegler	8.84
Mark Strauss	11.32

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## Scoring information on the TRT Titles

*Percent of correctly identified items on the TRT*

Title	Percent identified
Are You My Mother?	36.79
Bartholomew and the Oobleck	6.60
Because I Love You	43.40
Bedtime for Frances	4.72
Biscuit	6.60
Brown Bear, Brown Bear, What Do You See?	50.00
Caps for Sale	12.26
Chicka Chicka Boom Boom	46.23
Chrysanthemum	4.72
Click, Clack, Moo: Cows That Type	7.55
Colors of Me	12.26
Corduroy	25.47
Danny and the Dinosaur	11.32
Dog Heaven	6.60
Eloise	14.15
Father Bear Comes Home	11.32
Flat Stanley	11.32
Follow the Drinking Gourd	2.83
Gerald McBoing Boing	8.49
Goodnight Moon	63.21
Grandma and the Pirates	4.72
Guess How Much I Love You	28.30
Harold and the Purple Crayon	12.26
House on Eighty-Eighth Street	1.89
If You Give a Pig a Pancake	30.19
Jamerry	0
Kofi and His Magic	0

Moo Baa La La La	4.72
Oh, the Places You'll Go!	42.45
The Adventures of Chatterer the Red Squirrel	2.83
The Fall of Freddie the Leaf	3.77
The Going to Bed Book	10.38
The Last of the Really Great Whangdoodles	0
The Runaway Bunny	8.49
The Story of Ferdinand	18.87
Where the Wild Things Are	64.16

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Scoring information on the TRT foils

*Percent of incorrectly identified foils on the TRT*

Foil title	Percent identified
Backyard Safari	5.66
Blame It On Billy	3.77
Blueberry Kazoo	0
Clean Up, Carter!	7.55
Cootie Catchers	1.89
Down by David's Pond	2.83
Down by the Sea	18.87
Lazy Cat, Lazy Cat	5.66
My Friend the Mailman	3.77
Open Up	0
The Muffin Maker	6.60
The Rabbit Acrobats	0
Wacky Wendell	1.89
What Rhymes with Orange?	14.15

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Example answers from Vignettes task		
Vignette	Two-point Answer	One-point answer
Round robin reading	I do not like this teaching practice because it singles out each child and exposes their reading difficulties to everyone. Also, students may not listen because they will be looking for their line based on counting the number of students/lines before them.	Although it allows the teacher to be able to hear the students' pronunciation, I think that it can be very stressful for the students who struggle.
Watching films	I think that using students' interests as a springboard for teaching ideas is a good thing. That being said, explorations of the Percy Jackson theme should not stop after having watched the movie, but rather should persist over a few days or even a week. For instance, she may get the students to act out a scene from the movie.	I think showing the movie is good as an end of unit activity once all students have read the books. I would not show the movie while students are in the process of reading the books.
Reading for pleasure	I think it is a great way to foster children's love for reading because students are given a	This is a good practice. It allows children to open up and interpret their ideas.



great selection of books to choose from and time to read their selected book.

Guided reading	<p>This is probably the best practice for teaching reading strategies because the teacher can accommodate the difficult level to the level of the readers in that group. It helps all readers no matter how good they are. The only drawback is that children understand who is in the higher or lower groups, and that can affect their self-esteem.</p>	<p>I think this practice is good and benefits both the student and the teacher.</p>
Identifying the Matthew Effects	<p>I think this may be a result of frustration, children who are not the best readers at a young age may struggle and enjoy reading less than their peers who excel.</p>	<p>For many subjects, when a young student understands a subject, they tend to enjoy it more. For example, those who do not understand math may say they are not 'good at it'. So if they were 'good' readers in grade 1, they may want to continue along the same path.</p>

Teacher read-aloud

I believe that this is a good teaching method; but it should not be done the majority of the time. Kids do not learn as much when they are being read to as opposed to reading independently. When being read to, kids are not as focused on the learning to read aspect.

More time needs to be given to the children to read themselves. They might tune out after trying to listen for so long.

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Example answers from Definitions task		
Term	Two-Point Answer	One-Point Answer
Literature Circles	This is when children are grouped based on a book they chose and it's like a book club for kids	Students read together in a group and discuss
Guided Reading	The teacher works with kids who are at the same level and teaches specific things.	The students are grouped and the teacher guides their reading.
Matthew Effects	Children who have a hard time reading at first don't go on to read as much as children who get off to an easy start - this is when the good kids get better and the poor readers just continue to struggle.	The rich get richer, the poor get poorer.
Round Robin	The teacher goes around the room and each child has to read a sentence out loud out of a class book.	Reading out loud in a circle.

Sustained Silent Reading      This is when the teacher sets      Everyone reads in silence.  
aside time for children to read  
whatever they want - everyone  
sits and reads in silence.

Print Exposure      Reading for pleasure - this is      Being exposed to different  
when someone reads a lot and in      texts and books.  
turn does better at a lot of  
things.

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Examples of different activities from Language Arts Activity Grid	
Code	Activity
Discussion	Teacher discusses the book with the class
Writing	Class discussion on the topic of fairy tales
	Class brainstorms a story to be written over the course of the week
	Students will write their own ending of the book
Reading	Silent reading
	Everyone gets some time to read the chapter of the class book
Listening to reading	The teacher reads a chapter to the class
Receiving explicit instruction	The students take turns reading out loud to the class
	The teacher does a lesson on compound words
Word work	The teacher shows students how to draw a story diagram
	Spelling lesson
Entertainment	Students look up unknown words in the dictionary
	The teacher shows the class a movie
	Students play a game on the SmartBoard

Worksheets	After reading the chapter, students answer questions in their workbook
	Students complete the comprehensions question at the end of the chapter
Assessments	Pop quiz
	Spelling test
Computer work	Students go to the computer room to research about different animals
	The class uses computers to answer the questions they brainstormed together
Transitions	Students are asked to sit in a circle
	The teacher asks the students to get into line

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## **Appendix B**

### **Focus Group Guiding Questions, Coding Scheme, and Examples**

#### Focus group question guide

1. Tell me about the English classes that you teach.
2. How would you describe yourself (or how would you see yourself) as an ELA teacher?
3. Can you give an example of a lesson or unit that went really well in English class?
4. Can you give an example of a lesson or unit that did not go as planned?
5. How do you go about choosing what you do in ELA? Where do your ideas come from?
6. How does the school support you in that?
7. What would help?
8. What do you do to help yourself if the school cannot?
9. What advice would you have for a new ELA teacher?

#### **Coding scheme and Procedure**

Focus groups were audio-recorded and then transcribed into Excel. These transcripts were read several times, and compared to the extensive notes taken during the focus group. (Notes were taken to support recording, in case recordings became difficult to transcribe at times). During the first reading of the transcripts, conversational turns were designated as the unit of coding. Every time a new participant spoke or responded to a question, this was coded as one conversational turn. The nature of the conversation among the participants involved discussion over several topics, so multiple codes per conversational turn were permitted. Guiding questions or comments from the facilitator were coded as such and not included in the analyses.

Next, each conversation turn was categorised in a first cycle of coding. Here, descriptive coding was chosen as the most appropriate method (Saldaña, 2013). Sometimes referred to as

topic coding, descriptive coding required summarizing statements based on topic, not content. For example, in conversational turns where participants talked about the various effects of the time constraints they experienced in their classrooms, the topic was “time constraint”, rather than how it affected classroom instruction. In other words, descriptive coding labeled the topic of each conversational turn. In this first cycle of coding, 11 descriptive codes emerged. The next step was code mapping (Saldaña, 2013), in which these 11 codes were sorted into more cohesive categories, using a theoretical coding approach (Saldaña, 2013). In theoretical coding, also referred to as conceptual coding, existing codes are sorted into concepts that can be considered as umbrella terms. In this instance, three overarching codes emerged based on the way participants described their teaching experiences in relation to the stakeholders in education. First and foremost, the teacher him- or herself was at the center. Second, the students were the teachers’ priority. And finally, circumstances beyond the relation between student and teacher, and teacher to classroom were categorised together. This included topics that were outside of a teachers’ imminent control, but also removed from the students’ role in the classroom: class sizes, time constraints, resources, etc. Please see Table 7 below.



**Table 7***Focus group Codes, definitions, and examples.*

Code	Definition	Example
Theoretical code (2nd cycle): <b>Circumstances</b>		
Descriptive code (1 <sup>st</sup> cycle)		
Class Size	When the challenges and benefits of large class sizes were mentioned, either outright or in relation to how to structure instruction.	<p>“I had 32 [students] in Grade 6.”</p> <p>“Sometimes having a large group makes teaching practices a little easier... if you have 25 kids and 5 of them are absent, you still have 20 kids you can do a lesson with. Whereas if you have 15 kids and 5 are gone, then you have 10, you can’t really start anything new, you can’t move on.”</p>
School setting	References to the physical setting; references to the community of the clientele; references to the school	<p>“There are like 800 kids.... and three floors.”</p> <p>“They lost their inner-city designation so the minimum is now 26.”</p>
Time constraints	References to the challenges of not having enough time to dedicate time to everything of importance	<p>“It’s Grade 6, there’s all sorts of other things that come up, like, so you’re doing graduation...”</p> <p>“Even things like house assemblies.”</p> <p>“And then when you’re doing that other stuff, unfortunately, Daily 5 tends to be the thing that, because it’s flexible, like by nature it’s flexible, that’s the one thing you’re kind of like, well... ok so we won’t do Daily 5 this week, or we’ll do half.”</p>
Access to resources	Includes both materials, human resources such as psychologists, and learning new strategies.	<p>“Yeah, we learn about differentiations, but we don’t learn how to actually do it.”</p> <p>“This year, we have less psychology services for our students. That’s just the circumstance of what happened for this year, but</p>

our school is doing the very best they can....”

“We use the same articles every year, but they do come from either the newspaper, they usually come from workbooks.”

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Theoretical code (2<sup>nd</sup> cycle): **Students**

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Descriptive code (1<sup>st</sup> cycle)

Second language learners	When teachers talked about difficulties related to having many second language learners in the class.	“We have a big influx of international students, so we have many students that are coming into 6 <sup>th</sup> grade, having never spoken English before, or still learning basic vocabulary, so that affects our teaching for sure.”
Varied learners	When teachers discussed the adaptations needed in order to successful teach students with varied abilities.	“We had so many special needs, we also had a full-time behaviour technician in our room as well.” “I had 15 in my class and 5 with ASD.” “My students will have difficulty with decoding and encoding, and so when we’re in the classroom, I’m focusing a lot on comprehension strategies like inferencing, like specific strategies.”
Classroom Culture	When teachers discuss the classroom as a community, or as a culture with values.	“A lot of it depends on the dynamics of the class.” “Most of them are book worms, they read under the desk.” “We also have a transient community as well, like you’ll have kids start in March, kids leave in May, kids leave in February, kids leave in October, so that affects like, classroom culture in a huge way.”

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Theoretical code (2<sup>nd</sup> cycle): **Teachers**

Descriptive code (1 <sup>st</sup> cycle)		
Teacher attributes	<p>Characteristics of teachers such as values, metaphors, teaching styles, relative importance of subject matter. Attributes are not necessarily taught, but are part of personality.</p>	<p>“And I hear that, a lot of what you're saying kind of echoes too in my teaching, where like, rapport is number 1, especially when so many other factors – “</p> <p>“</p> <p>I am going to go with the one I gave before, because I just thought about it and it wasn't intentional, but I still like it. I feel that I have done that in my career: <b>Tour Guide</b>. I know about this world and I am bringing you into it. When you come into my classroom, you're in a place that I am fully accepting of the power dynamic that I know more than you, but I am only giving you the information that is going to help you enjoy it more. You find your own stuff and you make your own connections, I am just there as a resource to help you see the best of it. The other one that I will give, one that i also give to the kids and I like it equally, is the <b>Coach</b>. They're the star athletes, and I am just the coach. I am just there to give them the bases to help them get better, but they're the ones who are going to write the killer essays. Theyre going to do amazing things, I dont need any credit, I am just there to help you.”</p>
Teacher skills/knowledge	<p>Refers to knowledge and skills that are acquired through experience, training, or professional development.</p>	<p>“I mean I did Grade 4 last year. That's what I taught last year, Grade 4. It's perfect, because that is right around</p>

the time when they start really caring about spelling. I'm sorry, but the board drives me crazy - you're not the board - I'm just telling you, the board has this idea that they should, you know, explore spelling, and be inventive and never really teach it, right? They're fine with that. Kids don't want that, they ask--

“So close reading, engage reading is like taking a text that's more complex level, usually an expository text, and then how they would attack that text, instead of one large piece of text. You would chunk it down. And then within that text, you see what their understanding is like a click or, clunk. And if they hit a clunk, you'd give them fixed up strategies. Where was the clunk? What can you do about it? So you're really engaging like their metacognitive skills? Can we make them more independent? “

“This is what happened. Sorry, yes. Oh, my God, I read that, but I read it to them. And so I had them go into our classroom library, and even the school library, I'm like, I want you to choose three books that seem of interest to you, everybody, just choose three. And then we're going to take a look at the cover, I'll read you the back of the book. And then based on that, we will vote and you know, like, a little

Teacher practice

When teachers refer to specific classroom instruction, activities, teaching strategies

democracy here, and we'll choose like, which one, you know, whichever book is voted on the most. So we will start with reading that one and then wonder,"

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**Results:**

In general, teachers face a lot more than simply teaching one subject to one class at one time. The daily life of teachers are multi-faceted and require flexibility and wearing many hats, all while working within a system that is often stacked with additional obstacles. Elementary school teachers are generalists, who jump from grade to grade, and have to have the knowledge and skill to teach several subjects across all age levels. At times, the external circumstances (external to their classrooms and immediate school communities) are at odds or present obstacles in the teacher's main focus, which is being an effective instructor for all students. Teachers value the cooperation and collaboration with their colleagues, both related to specific classroom practices or materials, and related to specific students or groups of students. This was reflected also in the idea that they cared about their students learning trajectory beyond their tenure: students were followed up on with previous and future teachers.

Regarding reading instruction, some common classroom practices listed were: journals, class novel, lit circles, exercising talk competency, assessments, word families, spelling, authentic literature, collaborative books, readers' theatre, predicting the end of texts, breaking large tasks into smaller tasks, read alouds, Daily 5. This suggests that teachers know about a wide variety of activities, but based on how flexible their knowledge base needs to be in order to adapt any single strategy to fit a multitude of learners, conceptual understanding of intentions behind each strategy would help make choices and adaptations.

Notably, it seems that reading for pleasure is one of the first things dropped when time becomes scarce – it perhaps feels expendable because everything else contributes to assessment?

**What does this say for research?**

How can research interventions meet the needs of teachers?

1. Understand the physical constraints of teaching: time, resources, class size, varied learners.

Makes implementation of clinical programs difficult.

2. Be available for dialogue: teachers have a lot of hands-on experience. Things they lament not learning in training are things they pick up in the field, which makes them experts on things. If we take science and meld it with practice, application should be more successful.

3. Provide materials that reflect what classes look like: varied learners, materials must be adaptable, provide rationale for intention so that recommendations can be tailored, resource recommendations are also welcomed

Pull out quotes		
Focus group 1		
28	MA	Exactly, so an example is, a parent is here on work exchange or a temporary work permit so they are given an exemption. Usually, it's typically for 2 years, however they can renew their permit. It's not a permanent residency, the second a family receives their PR, they are no longer eligible for an English core school. Which is a shame though, because <b>we also have a transient community as well. Like you'll have kids start in March, kids leave in May, kids leave in February, kids leave in October...So that affects, like, classroom culture in a huge way. But that's like a separate research I'm putting in there. It definitely affects the way we approach learning because you're not learning from like a stepping stone? You're not learning step 1 in September, step 2 in October and building, sometimes in May you're restarting from step one because your whole class has changed.</b>
42	MA	But you know, it's interesting though, sometimes having a large group - maybe I'm gonna kick myself for saying this - but <b>sometimes having a large group makes teaching practices a little easier, in the sense that you could do more centers, you could do more games, you can do more team work, you can do more project-based,</b> and also, if, simple math, if you have 25 kids and 5 of them are absent, you still have 20 kids that you can do a lesson with. Whereas if you have 15 kids and 5 are gone, then you have 10, you can't really start anything new, you can't move on. So it kind of leaves this like, ok so we'll do this game...
57	SC	Yes absolutely. That also means that parents are a lot more involved, they expect a lot more, you are pretty much under a microscope for the first couple of months at the school because they have really high expectations. They're involved, they care about their kids, the kids do their homework, they're motivated, so like, <b>you gotta be at the top of your game or else they're just gonna destroy you.</b> So that's kind of what I've been living through. Um, one of those years, I was in a very inner city school, one of the most needy clientele of Lester B Pearson, so I was in Lachine, on 55th avenue. And um, yeah I had kids showing up in police cars.
63	MA	The thing is, so much of our teaching is not teaching. It's like psychologist, it's parent, social worker, friend.
69	MA	And I hear that, a lot of what you're saying kind of echoes too in my teaching, where like, rapport is number 1, especially when so many other factors -
75	AC	<b>That's what I found really frustrating about having thirty kids in grade 6, is that rapport - you don't have the time for the individual.</b> So that's the stuff that, unfortunately, that year, I felt that of all the things I do, of all the things I tend to do, whatever, you know, the elements that I keep, I sacrificed my student conferencing time. Like, I didn't have as much one on one time, and I just, it

		frustrated me at the beginning and I was trying all year to figure out how to squeeze things in, I just never really felt that good about it, and I think that's one of the things that I think is very different with like upper and lower, as far as the younger kids and older kids, the older kids, when you give them time, it's really gotta be focused. You gotta have - it's gotta be separate, no one else can hear me, and I can't do it randomly. <b>If you're doing centers with younger kids, you can pull them out, and chat for a minute, and that's all they've got in them anyways. So they can chat a minute and then they can go right back, it's fine.</b>
95	AC	I'm really big on journal. I'm really big on journal and the back and forth response - they write, I reposed to them, it's a back and forth, kind of thing, I really like that.
107	AC	I really like... I mean, I call it novel study but it's not the same every time. Sometimes I read the novel, sometimes it's half and half, I really like doing a book though. I, full on from cover to cover.
148	sc	Right, because Math... you can't just not do it, right. So that's, that's what's challenging sometimes because -
154	SC	It's just that, you know, let's say if you started writing, and then you have Daily 5, okay well, you know, if I don't have time to do the Daily 5 program, then I'm gonna focus on finishing that writing or doing that math. You're gonna kinda like, shimmy things around to get what's priority, which is usually like any writing project, or math.
158	AC	Yeah I was about to say, I don't see them so separated. I mean, of course I have tests but, I tell my kids at the beginning of the year, ELA is everything. Everytime you open your mouth, everytime you write a word, you know what I mean? Everytime you're listening to me and responding - those are the three things we are working on. So I can pull those ELA marks out of everywhere. We don't have to do a formal assessment.
170	MA	Spelling tests are for parents, I'll be honest.
181	AC	I mean I did Grade 4 last year. That's what I taught last year, Grade 4. It's perfect, because that is right around the time when they start really caring about spelling. <b>I'm sorry, but the board drives me crazy - you're not the board - I;m just telling you, the board has this idea that they should, you know, explore spelling, and be inventive and never really teach it, right? They're fine with that. Kids don't want that, they ask-</b>
195	MA	My thing is all about making connections too because then it is all the more meaningful.



205	SC	<b>The kids I taught science, they didn't hate science, they hated the science book</b> , so I would try to just make it fun.
245	AC	I knew the kids, I knew their level, I knew everything about them. That book was exactly the book that that class needed. I felt awesome about it, they loved it. They all, their favorite animals now is gorillas.
252	MA	It is cool because youre giving and taking, it is a shared relationship.
253	AC	<b>And it motivates them to read it to keep up.</b> The funny thing was, I also gave them time, often in daily five, like, if your behind in your pages, now is the time to read to yourself. What would happen is, even the ones who were behind, they wouldn't go to where I was- they stayed where they were and they kept going. So even when I was on page 58 and they were on page 10, they wouldnt go to where i was, they would keep reading from page 10.
270	AC	I would say I approach the readers differently, I probably approach everybody as non readers, I would tend to think. The ones who are reading themselves, take care of yourselves- go forth and conquer, but the ones, the bulk of the class, im selling.
280	MA	My school has a library, we are lucky- so we go to the library and they get to pick 2 books and then we take 5-10 minutes for them to start the book. <b>I think a lot of that is modeling too, so when theyre reading, im reading.</b>
301	MA	I think the trickiest part is- we have a day that is broken into subjects and then activities and transition times and all that. And so, more often than not, at these types of workshops, and they do kind of exist in different ways- the biggest issue is most teachers say "oh okay, this is just one more thing to add to my list of things to do." and it becomes overwhelming and so we tune out. Like our students "oh another assignment?" and they tune out. but I think it would be really cool if someone brought up a bunch of different books, I am all about storybooks, so if someone brought up like 5-6 different storybooks and presented different ways that they could use these books to teach varying levels of readers.
303	MA	A big thing as well, in grades one and two, there is a discrepancy between my high readers and my low readers... but as they get older, the discrepancy gets even wider. So it would be useful to see how we could use this one class book in different ways where we could differentiate. Because I know we are supposed to differentiate, but more often than not, Pintrest has been the best resource or youtube videos or other teachers about how to actually adapt this tool
306	AC	And it is interesting, I find that there are a lot of absolutely opposite theories on differentiation. You'll hear one teacher say I do it this way and another say I do it this way and theyre completely opposite. They might both do it and they might both be successful. I find that this is an area with no real cohesion about how it should be done. I did a workshop on differentiation once and they were very clear about how to do it. But I find a lot of people are not doing it that way.

330	AC	It doesn't mean that you can't take work home. It just means differentiate between the two. When you're at work, you're at work- use the time. The resources are there and you don't want to be doing it at home. And I would say ask questions- and the best and only feedback you need is from the kids. if they're progressing, if they're not, read the kids. Read the room.
334	MA	And even when we read storybooks, we read for a purpose, it's for an academic reason, it is a research based method and it's things that our experience has taught us to be true. I think everyone has been in school at one point, but this is like, everyone has had a common cold, so everyone can do open heart surgery, right?
337	AC	And that's part of the issue with the programs, with university, is that, in other jobs, you can actually have a car in a shop and fix it. I remember at Concordia, we are pretending to be 8 year olds, you know what I mean, we are teaching each other, but we are not kids. It is not going to work.
Focus group 2		
2	VA	That's what I've been thinking weekly when we do those McGill readings where I'm like, who funded this, why? Who asked for this? Why was this research conducted?
20	VA	Yeah, it's great. We have our own individual teams, you know, like both by cycle are by grade, you know. And we meet every week, right? So we'll meet with, for example, Bridget, the associate teachers. So Scott, and I will meet with these, like with Bridget. And then we also have our own meetings, Scott and I, once a week. So there's a lot of communication and a lot of feedback. And we're like, we're constantly in communication as to what's working, what's not, and how can we make changes. And what's really great at Vanguard is that we're able to have these meetings and communicate and make those changes from one week to the next or even from a date. So the next which is really, really wonderful. And we have, if I have, if I have no idea what I'm doing, then I go to Scott. And if we're confused, we go to Bridget, and if not, we go to all of the teachers here, there's a really nice support system when it comes to that.
22	SG	that's definitely something we do a lot of, nothing's ever set in stone, nothing separately, we're always questioning it after every lesson, I think we are questioning to reflect on it and see how it could be improved. And then we put in the work to make it easy to just use the same thing next time. But then...
37	BP	Yeah, because reading comprehension, if someone tells me you can't read I 1000 things are going through my mind why? Yeah, I mean, what is it? Is it the print is too complex? Is that the quality of the print? Is it the students background knowledge? Is it their lack of vocabulary? Is it their physical state is, it can be so many things that we have to look at? First thing, why are they reading?

44	BP	<p>Yeah. You're not insulting your it's like their level of material but easier reading, you know that the text is easier to read, but it their interest level. But speaking to motivate them, first of all, you probably do a poll of what interests them. You get to know your class first and then genre, right, exactly. So you do that through books, they're gonna read or even read aloud, like you were asking like, first or last year was like, What? Before you start doing a read aloud? Ask them if they're even interested in that book? Mm hmm. What are you what what are you interested in that you would use that for read aloud just to get them more involved? I mean, it's already I mean, especially as they get older motivation being what it is. It's the biggest factor at the high school level of a student succeeding or not. It's Really their motivation, right? So with us with the older kids, that's very important.</p>
58	JM	<p>Given that my students more than half the class or non readers still, at this point in a school year, it's really important that I do a lot of read alouds with them and books that they would not be able to read themselves, but at their interest level at their age level, and their comprehension level. Because, you know, what we work on during skill groups, decoding intervention groups is the cat fat, you know, it's so basic, and it feels babyish to them. And there's absolutely no motivation to want to read things like that. So I need to bring in the higher level, I need to get them to want to hold a book to enjoy a book, I start the daily five and I launched that right away beginning of the year. Daily five is also a nice way to break up all the evaluations we do right in the beginning of the year, because it's very hard on new students who are not really familiar with the amount of evaluations that we put them through they're troopers. So daily five is an incredible tool. Listen to reading is very powerful one, I get them on epic on the computer, and they can follow along and listen to books again. Some of them are listening chapter books. I have a student right now, who is non stop listening to goosebumps. I love it. He couldn't read that chapter book himself. He's just listening to it. And I, you know, I check in for comprehension. Sometimes I asked him to tell me what the chapter was about, and he can and he just listens to it and enjoys it. So I just try to get the love of reading, which try to get that out there because I want them to want to read. You know, when we're working at the skill level, it's not fun. It's tedious. It's hard. And it's not very motivating when the sentences are so young or babyish, right in their opinion. Yeah. So I do a mix of. First of all, we do a lot of picture books. And they we do a lot of my writing. For my group is an extension of a picture book. We usually use them for inspiration for pieces of writing. That would be our lunch.</p>
68	BP	<p>So I just remember reading the novel of the magic finger. Mm hmm. And I just thought. Yeah. And I decided I was going to analyze this to death. Every strategy first started out like I'm gonna use every comprehend. And I totally turned off the whole class. They were so not interested in the book. They were done with it. today. They were just groaning and then I realized I killed her love of reading like I killed the magic of the magic finger. Yeah, I was motivated. And quickly, this wasn't going well.</p>

82	SG	in my team, they're just the we use the same articles every year, but they do come from either the newspaper, they usually come from books, workbooks, workbooks, appropriate.
87	BP	I would argue that you should try to use as much expository as possible because they lacked so much background knowledge and vocabulary. This is a way of hitting the target, like hitting the strategies, and also increasing content knowledge.
91	VA	it's that tricky thing. We were talking about interest and trying to choose things that are you know, based on their interest. Yeah. But you always have to balance like, choosing something that interested in maybe giving them choices and letting them vote or something. But then also something you know, well, yeah, my background knowledge. Yeah. Well, if you have a group of students, yeah, two years ago, all they wanted was, you know, video games and sports, but you need to bring them to another place. And so you have to balance their interest with the stuff that you feel that they also should be exposed to.
106	BP	It's the high low, we really need things that are I mean, it's out there. It's grown a lot. But there's little reality really, more of Yes, they can actually yeah, with a current event, are we in a lot of what's it called? Not comic, but even magazines or like a high low? You don't have that it's like a novel, but they don't like a publication. That's high low. Yeah.
109	BP	Well, if you think of the average grade level, like what the average of the population, it's very, it's not very high. So you're, you're not making information accessible to most people. Yeah. So it would work, you know, across the board, not just for students, but for large part of the population
110	BP	Well, it shapes its shapes. I mean, democracy because you got those who know, you don't know. So you stay in power, because because reading gives you knowledge and power, versus those who are don't have
113	BP	Well, it shapes its shapes. I mean, democracy because you got those who know, you don't know. So you stay in power, because because reading gives you knowledge and power, versus those who are don't have

## Appendix C

### Coding scheme for Study 2: Definitions and Vignettes Tasks

#### **Definitions**

##### **Phonemic awareness:**

The ability to **hear and manipulate sounds** in speech.

*2-point* answers contain both that phonemes are a sound of speech, and that awareness involves skill with identifying or manipulating the sounds. The two highlighted parts are required for a full-point answer.

*1.5-point* for answers that fall in between.

*1-point* answers: contain a partial definition

E.g., “Letter/sound recognition” – not enough information, also requires ability to handle the sounds

“Knowledge of the smallest parts of sounds that have meaning” – not enough information, awareness requires the skill to manipulate the sounds as well.

“Ability to break down sounds.” – not enough information

*0.5-point* for answers that fall in between

E.g., “Being aware that certain letters make certain sounds.”

*0-point* answers

I don’t know, or incorrect answers.

E.g., “Students knowing how to read a word properly based on rules” – phonemic awareness refers to sound, not reading.

#### **Literature Circles**

Reading groups that are **assigned based on choice**, **scaffold reading comprehension** by breaking the roles of active readers into smaller parts.

*2-point answers:* contain both the element of choice, and that comprehension strategies are broken into smaller chunks

e.g., “Students choose a book based on their interests/preferences. Every student in that group reads that book. The different members take part in discussions and sometimes different activities to understand and think about that book together.”

*1.5-point* answer: in-between.

“Groups of students (not levelled) all read same book & have different roles assigned.” doesn’t mention choice.

“Student book clubs. Students select and read books that interest them.” – does not mention roles

*1-point* answer:

e.g., “Small groups reading together but each member commenting on a different given task. Each task to be shared among the group once completed.” – does not mention that books are chosen by the students.

“Small group discussions of a shared book.” – not enough information

*0.5 point answer:*

“This is when a small group of students gets together to discuss assigned sections of a book. The book is generally selected by the teacher as are the groups. Students are usually placed according to level and ability. Each student within the group is also assigned a specific "job" or task for the following week, which helps guide and focuses discussions.” – While the answer is partially incorrect, this participant did know about the roles.

*0-point answer:*

“I don’t know”

### **Guided Reading**

Students are **grouped by reading level**, to **read a text chosen by the teacher** to be **at the right level**, with **the teacher**, as **they work on specific reading strategies tailored to their abilities.**

*2-point answer:*

e.g., “Teacher lead activity with a small group of students who struggle with same concept (vocabulary, reading strategies, etc.). Often with leveled texts.”

“The teacher reads with a small group of students which have been placed together based on their reading levels.”

*1-point answer:*

e.g., “Small group reading instruction to allow focus on smaller group needs

“Small reading groups in which the teacher guides students through the process of comprehension, fluency, etc.”

- neither mention the grouping by ability aspect

*0-point answer:*

I don’t know

e.g., “The teacher has more of a role in the reading, rather than it being student-centred. (I feel like I should know more.) “– the answer needs to have more content than what can be inferred from the term itself. And guided reading is in fact, student-centered.

“Reading with teacher input”

### **Matthew effects**

The **rich get richer, the poor get poorer** – those who struggle to read, read less over time and do not improve at the same rate as those who read with ease, and are likely to practice more.

*2-point answer:*

e.g., “The effect that the more children read, the more likely they are to become stronger readers and enjoy reading for pleasure - while those who struggle to read will likely not read as much or read for pleasure”

*1-point answer:*

e.g., “Students with reading gaps will continue to lag behind. The students with low to no reading gaps will continue to shorten them.” – the idea is there but the connection is not.

*0.5-point answer:*

“Is the idea that reading will get exponentially more difficult for a student who does not make good initial progress in reading (age-appropriate)” – shows a surface understanding but is not quite correct.

### **Round robin reading**

Teacher asks students to read out loud, one by one, using a text that has been selected by the teacher, giving students no time to practice.

2-point answer must contain all elements: lack of choice in the activity AND text, lack of practice opportunity.

*1.5-point answer:*

e.g., “Is a disapproved reading technique in which the teacher calls upon students to have them read aloud in front of their peers.” – does not mention lack of choice, lack of practice

*1-point answer:*

“students take turns reading aloud from the same book” – does not mention the lack of choice

### **The Simple View**

Decoding x language comprehension = reading comprehension

*2-point answer:*

e.g., “Decoding x language comprehension = reading comprehension.”

*1.5-point answer:*

e.g., “decoding and understanding of language = reading comprehension” – missing the multiplicative element

*1-point answer:*

e.g., “Emphasizes the importance of decoding as well as language comprehension (spoken word) in order to reach reading comprehension.” – the content is correct, but the relationship is not made clear

*0.5-point answer:*

e.g., “says that reading=decoding+ language comprehension” – components are there, but the addition symbol is wrong

“decoding x listening comprehension= comprehension” – listening comprehension is incorrect, and the outcome is reading comprehension

### **Sustained Silent reading**

Students are given time to read independently, a text of their choice while the teacher reads as well.

*2- point answer:*

e.g., “Students reading books they are interested in and choose themselves silently while the teacher also reads silently.”

*1.5-point answer:*

e.g., “Students read a book of their choice silently along with the rest of the class.” – missing the component where the teacher reads, too

*1-point answer:*

e.g., “silent, focused reading” – does not contain information about the choice of text, nor the teacher.

“Independent reading time in a classroom, everyone reads silently.” - same as above

*0.5-point answer:*

e.g., “Reading silently” – needs more information than that which can be inferred from the title.

### **Print exposure**

**Reading for pleasure**

*2-point answer:*

e.g., “Reading for pleasure.”

*1.5-point answer:*

e.g., “Print exposure is begin exposed to print, such as reading, being read to, learning to decode. It is what can bridge the gap of the Matthew Effect. It also improves socio-emotional skills, cognitive skills and more.” – contains much information, shows evidence of understanding, missing pleasure component.

*1-point answer:*

e.g., “Print exposure means letting the children look at the words in texts. They are given time to have exposure to books. They are also given the opportunity to read different types of texts. The more time they spend reading different types of texts, the more they are exposed to vocabulary words.” – missing the pleasure component

“The time one is engaged with print.” – mentions time (volume), but not pleasure

*0.5-point answer:*

e.g. “Being exposed to words and books.” – needs more information than that which can be inferred from the title.

### **Vignettes**

Generally, answers here vary on how deeply these practices are evaluated. Answers that are limited to “I like it” or “I don’t like it” do not merit full points. The scoring scale allows to



differentiate between answers that show a deeper reflection, and those that might be more superficial.

0-point answers are “I don’t know” answers.

### **Round Robin vignettes**

*“Mrs. Johnson is reading a novel with her fifth-grade class. She has each student read aloud, line by line, taking turns around the classroom. What do you think of this teaching practice?”*

2-point answers indicate that this classroom practice is harmful for the reader, ineffective for the listener, a cause of anxiety, and has no positive effects.

E.g., “Round Robin. Not a good teaching practice. One student reads and the others are supposed to follow along. Some probably tune out, others get stressed anticipating their turn, overall not good especially if it’s new reading material where a student has not had the chance to practice.”

*1.5-point answer:*

e.g., “Not an effective way to build reading comprehension skill or confidence in students.”

*1-point answers* identify this vignette as Round Robin, but do not expand on whether it is appropriate or not; or contains parts of the 2-point answer.

e.g., “Puts unnecessary pressure on some students.” – there is more to why it is a good/bad practice

*0.5-points:*

e.g., “Depending on their abilities, this can cause anxiety for some students. If I do a Round Robin style, it is only with certain types of readings (in my grade 3). I always aim to build them up rather than hurt their self-esteem.” – recognizes the drawbacks but nonetheless considers it to be a useful practice

### **Showing a movie**

*“Mrs. Johnson overhears her Grade 5 students discussing the Percy Jackson books at the lunch table. Her students seem very excited. She decided to show them the movie that week. What do you think of this teaching practice?”*

2-point answers recognize that showing a movie is not a bad practice, especially if rooted in reading interest.

*2-point answer:*

e.g., “Media text is another great way for students to be interested in reading. MS Johnson is adventurous and using different strategies to entice her non readers.”

“Are they reading the novel as a class? if yes, it could be a good way to end the novel unit. Have they already read it on their own? If yes, I would consider reading the sequel as a class or in their literature circles.”

*1-point answers:*

e.g., “personally prefer to stay away from screens. not all students have read the novel, now any student who may be interested knows the story and will likely picture scenes from the movie

while reading the book! student's imagination has been infiltrated by Hollywood.” – does not acknowledge that students might find it motivating.

### **Print exposure**

*“Mrs. Johnson dedicates about an hour a week to students reading and discussing various books, including popular graphic novels and books on the Children’s and Young Adult bestseller lists. What do you think of this practice?”*

2-Point answers recognize that this practice is wholly beneficial by letting students explore different genres, connect to each other over books, and because it values reading and lends it importance.

2-point answer:

e.g., “I think it's important to discuss all types of books in class including graphic novels. Graphic novels usually get the reluctant readers in class interested in books. “

1-point answer:

e.g., “i like it” – does not reflect on what is good about the practice

### **Guided reading**

*“Mrs. Johnson spends some of her English Language Arts instruction time working with small groups. For example, she takes a small group of students who are working at the same level and spends the time talking about specific reading strategies and reading texts that are appropriate for their level. What do you think of this practice?”*

2-point answers acknowledge that guided reading is a necessary practice to scaffold students, especially when they struggle, and that time spent on guided reading is time well spent. Answers that question the grouping method (by ability) receive part marks, because while this is indeed an issue to be aware of, in this instance, the grouping supports the objective.

2-point answer:

e.g., “This is guided reading which I personally like to use as a strategy. Students who might not feel comfortable in the large class setting asking questions, might tend to feel more comfortable within the small group setting and with students at their own level, asking the same questions.”

1-point answer:

e.g., “great” – does not reflect on why it is a good practice

### **Matthew effects**

*“Over the years, Mrs. Johnson has taught several grades. She has noticed that the best readers in Grade 1 seem to also be the best readers in Grade 6 and also to enjoy reading more for fun. What do you think about this observation?”*

This vignette details an observation of how the Matthew effects could be observed in classroom. Full marks awarded to answers that recognize that this observation is likely, and possible, and extend upon why this might be the case.

2-point answer:

e.g., “Early exposure to books and the love of reading definitely has an impact on the children's reading abilities down the road. “

1-point answer:

e.g., “Possible, and likely. I'd wonder what other factors contributed to it.”

### **Read aloud**

*“The teaching neighbour of Mrs. Johnson (Miss Kay) spends the majority of her Language Arts time reading a novel aloud to her class. Miss Kay says reading aloud allows children of all different levels hear the same book. What do you think about this practice?”*

Full answers here are awarded for recognizing that reading out loud is indeed a valuable practice, and should still happen in the upper grades for many reasons (modeling fluency, forging relationships, sharing a reading experience), but the majority of reading time in any grade level but especially the upper elementary grades should not be occupied by students listening to the teacher read.

2-point answer:

e.g., “I don't agree that this should take the majority of her LA time. I used to read to my students on Friday afternoons while they were working on art activities. I did it for fun. They weren't evaluated on it.”

1-point answer:

e.g., “I love reading aloud to the students, regardless of age or grade. I think this kind of role-modeling allows them to develop strategies when they are reading independently. For example, getting into a character by creating an accent. Reading slower and with more expression, rather than racing through the sentences.” – does not acknowledge that read aloud should not be the main method of instruction in Grade 5.

## Appendix D

### Study 2: Materials and Coding Scheme for Instructional Planning

#### Language Arts Activity Grid (Version C)

*(adapted from Cunningham, Zibulsky, Stanovich & Stanovich, 2009)*

According to the MELS, in Cycles II & III (grades 3 & 4, and grades 5 & 6), main language instruction (eg. English Language Arts) is allocated seven hours per week. Using the activities from the list below, please complete the grid, indicating on what you would spend your **English Language Arts** teaching time in a grade 5 class, over the course of one week. If necessary, please specify: e.g., **the teacher's role** and the **students' role** in each activity. Please also indicate the **amount of time to be spent on each activity**. Keep in mind that the hours allocated per day do not necessarily have to be taught consecutively; they can be broken into smaller chunks.

E.g. A two-hour period does not have to be made of up one two-hour activity. **Please also indicate what you would assign for homework with a minute allocation.**

List of Activities:

Teacher read aloud	Students read assigned reading quietly	Students read self-selected reading quietly
Free writing activity	Assigned writing activity	Comprehension worksheets
Spelling worksheets	Student presentations	Teacher directed lesson (e.g. word families, vocabulary)
Watching a movie	Doing dictionary work	Students read in groups
Students take turns reading out loud	Visiting the library	General group discussion
Spelling worksheets	Journal writing	Book talks
Art activity (e.g. diorama)	Research (e.g. using computers)	Students listen to audiobooks
Drama activities (e.g. skits)	Assessments	<b>Other: please specify</b>

### **Grids**

These grids asked for participants to give a quick lesson plan overview for the course of the week (Monday – Friday). Most Montreal schools are immersion/bilingual in the early years, so we asked for teachers to plan for Grade 5, even if they are not Grade 5 teachers. (The rationale is that elementary school teachers tend to jump from grade to grade until they are permanent, so they should be qualified and prepared to teach all grades, and in Grade 5, instruction should be less focused on emergent literacy and more on developing reading as a habit).

Participants are asked to provide enough information so that we know what the student is doing in relation to the teacher (i.e., reading, being read to, writing, completing a worksheet), as well as a time allocation so that we can tally a total of minutes for each activity. The goal is to be able to speak to how many minutes per week teachers plan for children to do a variety of activities. For example, a fifth-grade teacher who reads to students for 75 minutes a week and has them doing their own reading for 5 minutes a week seems to exercise different priorities than a teacher who has children reading on their own for 75 minutes per week and reads to them for 5 minutes per week. Because, as research indicated, listening to reading does not develop reading skills or cognitive benefits associated with reading the same way that reading does.

Therefore, each entry for each day is read and sorted into the appropriate activity codes, detailed below.

Homework is not coded or included in the total minutes.

Rules:

Regarding time allocation, most of the time participants explicitly stated the number of minutes. However, in the event that they do not, one of two things can be done:

1. If they stated something like “2 hours of \_\_\_\_\_” and then list a series of activities, divide the number of minutes (e.g., 120) by the number of activities. For example, “Two hours, silent reading, writing activity, spelling test” would be coded as “40 minutes reading, 40 minutes writing, 40 minutes assessment.
2. If a time range is given (e.g. 10-15 minutes), pick the lower end (for consistency).
3. If no minute allocations are provided at all, we use the default time allocation below (taken from a Lester B Pearson school):

Total 420 minutes

**Monday = 90**

**Tuesday = 60**

**Wednesday = 120**

**Thursday = 60**

**Friday = 90**

There are overarching categories. Two are quite infrequent (Assessment & Transition). There is a code for instances where teachers do not provide enough information to categorize the activity (Uncodable). E.g.: independent study, catch-up time

**Activities that promote reading:**

In this overarching category, there are several sub-categories.

Students being assigned reading or doing silent reading

Guided reading

Book talks or book discussions

Reading in groups, reading to each other

Students reading out loud

Going to the library

The teacher reads out loud

Drama activities

Anytime where the main activity is reading. This does not include completing worksheets in relation to books (those are coded as writing activities). These activities are both formal and informal in nature.

**Activities that promote writing:**

In this overarching category, anytime students are writing, this is the category:

writing, brainstorming, drafting, editing, research, computer work, worksheets that have been specified such as comprehension (note: when it just says worksheet, with no indication of what it is in relation to, it is coded as General classroom practices), spelling, vocabulary, journal writing, structured writing projects, graphic organizers, free writing. These can be considered mostly formal activities (perhaps except for journals or free-writes, depending on the outcome)

**Entertainment:**

Any activity that is celebratory in nature, and that celebrates literacy:

Drawing a picture, illustrating a scene, playing a word game, watching a film adaptation of a book, or just watching a film in general. These are informal activities.

**Explicit teaching:**

Formal activities where the teacher is giving a lesson. In some cases, the subject is defined (e.g. grammar lesson). In other instances, a grid might say “Mini-lesson”.

**General classroom practices (non-literacy)**

When the activity says “class discussion” or “worksheet” without specifying the topic.

This includes teacher lead discussions (different to explicit teaching because it is specified as discussion, but not specific as a discussion ABOUT something). For example: “book discussion” belongs under Activities that promote reading because it extends on a reading experience (e.g., relatedness); “discussion” could be about anything and cannot be sorted as any of the other categories. Same as “presentations” – if there is no indication about the content, then these fall under general practices.

## Appendix E

### Study 2: Intervention Script

SK: So given the extraordinary circumstances of this meeting, let's bring you a flashback of how things once were – outside, close to people... Actually, we took this picture two years ago at an international reading conference, where our lab presented 6 research projects. So these are some of the wonderful people in our lab and we all study different aspects of reading. Kelly and I are circled and the red arrow is pointing at Sandi, who is our academic advisor and captain.

Not to spend too much time on who we are and why we do what we do, but to give you an idea of why we're here: I'm a PhD student in my last year (hopefully) and I've always been interested in reading. I've always considered myself to be a reader, so it was logical that when I got to grad school, I picked reading. But I'm also deeply interested and passionate about teaching. So the bulk of my research has focused on reading and teacher training.

KC: My path to research is a little less conventional. I too have always loved reading, and I have always loved the idea on lifelong learning. After getting a degree in leisure studies I worked in that field before having children. I fell in love with teaching and after getting my teaching degree almost 10 years ago I knew I wanted to continue my education. Doing my Master's with a focus on professional development for teachers through a literacy lense was the perfect pairing.

SK: So the first thing we'd like to talk about is how as much as we want to teach you some things today, we also want to learn from you. You've been so kind as to fill in our surveys before hand, and also, in the spirit of honesty, we are totally learning about how to conduct this workshop online on the fly. We've taken a format and adapted to fit the circumstances, so please be patient with us while we navigate it all.

But really, we're as interested in learning from you as we are in teaching you -this is why we've asked you to complete all those surveys. We hear a lot about how teachers need more knowledge. Often times, people don't realize how much specialized content knowledge you need in order to teach reading. And there's no reason for that – there is a TON of work that's been done on content knowledge related to reading. So, to give you an example – one of the most prevailing ones, In 2001, the National Reading Panel in the US summarized 30 years of research in order to label a framework of balanced literacy instruction.

You may have heard of this before but if you have not, it's most likely because your teacher training programs and the textbooks that were used did not teach you. This is a prevalent issue especially in the USA – a lot of research that has been conducted in the field of reading doesn't find future teachers because the training programs show a disconnect – they either omit the information, or simply just don't know about it and thus don't teach it. We should say here that Canada seems to be doing a better job.

So we see a clear mandate within our jobs - to make sure that this knowledge trickles down into classrooms.

And we would like to emphasize here that TEACHERS are not the problem in this situation. Something happens between things like clinical experiments that show kids remember letters better when we use embedded picture mnemonics (Ehri & Shmidman) and the actual classroom setting. Sometimes it's because what a researcher does in a lab cannot be replicated in classrooms. Sometimes it's because the information remains with researchers and they do not extend the work into real life classrooms. Nevertheless, we think that YOU the teacher are instrumental here and we want to be better about bridging that gap. Which is why we're here today.



So what you see here is one framework that we use to look at what teachers need to know about in order to provide balanced literacy instruction. We think of these as 5 pillars : Phonemic Awareness, Phonics, Vocabulary, Oral Reading Fluency and Comprehension Strategies. And those five pillars continue to be demonstrated as crucial in reading success for kids. And we will talk about some of this a little later. But it's staggering that the research side of education has all of these studies of evidence-based best practice and teacher training programs don't always teach them.

So the idea is, well, one way to look at it is that we would have a triangle relationship between research down in scientific settings (academia), the transmission of that into teacher training programs, and then expertly trained teachers go into classrooms and help kids reach the utmost of their potential.

And considering that, as we just talked about, that teacher training programs often fail to play their role here, if we miss that direct path from academia into training, then we as researchers, should be mediating that failure via PD. The end goal is to take what research we have and implement it into the classrooms via you as the teacher. Because after all, you're the instrumental piece in this. And academics, especially in educational research do not work in a vacuum, right? We study, for example, reading, because we think it is hugely important that kids are not just capable readers but also passionate readers. We're going to spend 3 sessions convincing you of that and how it works. But our end game is that your students will remember you as the teacher who showed them how to love reading. And we know that many kids ( $\frac{2}{3}$  in fact) are reading at basic or below average levels (NAECP) and that's a problem. We also know that many teacher training programs in the US don't teach their teachers what we are teaching you to do. So our response is to schedule a PD workshop and show you what we do here.

But we think there's another part – we want to learn from you about what works and what doesn't work.

We are so lucky to be talking to you today about reading instruction– this part is often overlooked in research and it shouldn't be because we're talking about how to take the reading skill that we've taught kids and make it a habit, a passion, a part of identity. And for that, your experience with your students is invaluable.

So, we're here to talk about reading and as many of you know, being a good reader does not necessarily make you a great teacher of reading. In fact, we know the opposite to be true. The better you are at something, the harder it can be to teach it. Have you ever seen a mathematician teach Grade 1 math? It's quite difficult to put yourself in the mindset of someone who doesn't know what is so automatic for you. So, to get to where we're going today, we're going to lay some theoretical groundwork of how we think about reading.

KC: When we think about teaching, there are many factors that go into what and how we present what we do to our students. In the 1980s Lee Schulman developed 7 categories of knowledge that teachers need, to develop appropriate learning environments for their students. Today we are going to look at 3 of the most common.

First, we have pedagogical knowledge, and that would be the “how” of what we teach; concepts that are common across all subjects. Things like knowing how child development fits into how children learn, general teaching practices that are applicable to all teaching environments or situations, like classroom management and organization as well as practices like knowing what activities are appropriate for each age group, and how do we best meet the needs of individual learners?

We also have content knowledge – this is the “what” of what we teach. Specific knowledge about a given topic. For example, having a deep knowledge about early numeracy concepts, or science concepts, and for reading teachers, how reading skills are developed.

The part that’s tricky is the pedagogical content knowledge; it takes both the what and the how of teaching, to meet the needs of specific learners, within a specific content area. This is important for all subjects, and in particular for reading, because knowing how to read is not enough to teach it. And knowing what to teach isn’t enough either. You have to know your students and where they are at developmentally, their strengths and weaknesses, as well as their interests as individuals to get them turned onto reading, especially if they struggle. When we’re talking about PCK related to reading, we are talking about those 5 pillars that Stephanie talked about earlier: phonemic awareness, phonics, vocabulary, oral reading fluency, and comprehension strategies, but also about concepts like autonomy and competence, how to capitalize on a reader’s interests, and how to develop deep processing strategies, and so much more.

SK: And research knows that when we do a better job by teachers and provide them with all of this knowledge, they do a better job teaching their students. And today we’re here to talk about reading specifically. And I think we are all aware of the fact that teaching reading that it’s not a simple, linear, straight-forward process. Reading is not about knowing that there are 26 letters to the alphabet. It takes time and it’s a complicated process and the needs of readers change depending on their skill level.

SK: So to use the words of Catherine Snow, a very prominent researcher in our field:....

Snow talks about this idea of reading development as a process because it is a different task for people in different stages at life – and in each of these stages, different kinds of support will be

helpful - and those of you who have worked with kids of different ages will know this. We're going to show you some of the most prominent frameworks of reading development that show how the needs of early readers can differ slightly from the needs of more advanced readers - but both are critically important. When we do a good job making reading easy and a positive experience, we can also help kids to find enjoyment in it. And while all levels of reading are interconnected and interdependent, we do see a need for emergent literacy to focus more on decoding skills so that later instruction can target comprehension and fluency. So, we wanted to give you a background of what happens or should happen before we target the upper elementary grades. And this is important because of the consequences of getting off to a rough start in reading.

And the reason we are taking the time to talk about these theories is because we thought about our objective today. This is what good teachers do, right? We keep our objective in mind. You may have heard about the difference between learning to read and reading to learn (Chall, 1967). We like to think of reading in a similar way, but one that respects the intricacies of learning how to read. Because reading is a really difficult task and the better you are at it, the harder it is to remember how much goes into it. So, we're going to start with the simplest of frameworks, aptly named the Simple View

It was first developed in 1986 by Philip Gough and William Tunmer. They thought about reading comprehension as the product of decoding skills and language comprehension skills.

Decoding is the ability to take letters of a page and turn them into spoken language. Language comprehension here is the language that people understand when it is spoken to them. If either of those is 0, then the outcome of reading comprehension is 0. That's why we have a multiplication symbol in between.

And this is important to us here today for several reasons: first, it is important for decoding skills to be solid and effortless. And that's what tends to happen in early literacy classrooms. BUT language comprehension is integral as well. It's not as simple as one first and then the other – the importance, so the weight of each component is different depending on where a child is in reading development. It's a good way to look at reading comprehension because it shows that both skills need to be exercised in order for kids to be good at reading comprehension. And the way to exercise decoding is through phonemic awareness and phonics (so think back to those first two pillars) – explicit teaching of phonemes and graphemes and how they work together. But the way to exercise language comprehension is, once decoding has been acquired, primarily through reading.

So unmute your mics now so we can have a quick conversation about this. Do you have any questions so far?

KC: Another way to look at reading development is using Ehri's Phases of word reading, which was originally developed in 2005 and revised in 2014. We're going to walk through each of these and provide some examples.

So, the first phase is the pre-alphabetic phase, in which we see that the learner has very little alphabetic knowledge. What we mean by that is they have not yet learnt that letters, and letter clusters also called graphemes can be matched to sounds, or phonemes. They read logos, or images the same way whether or not they contain letters.

For example, children at this stage will read both of the Paw Patrol images here, the same. They would not be able to differentiate between the top and bottom pictures until they are in the partial alphabetic phase and will then begin to match the letter "P" with the sound /p/.

In a similar fashion, many children will recognize the Netflix logo and know that it stands for Netflix, but they will not however be associating the N with the word Netflix – they just know that if they click on that icon they’ll be able to watch Paw Patrol... The same way they know that the picture here on the bottom means it’s a designated place to cross the street.

In the next phase, children begin to form partial connections between letters in writing and sounds in speech.

Keep in mind that Ehri talks about **READING** development – but that would be difficult to demonstrate to you, but we do have some writing samples to share because reading and writing are intricately linked.

We are going to show you three writing samples that all fall within this partial alphabetic phase.

This first picture is a story about a little boy who is the bus driver- his name is Jacob and his friend in the passenger window is Kyo. You can see that he has written their names, and he was able to do this by coming from their desk nameplates. You can also see the letter “S” between the two names – that is the final sound in the word bus. Although Jacob has the letter b in his name, he has not consolidated that letter sound pairing to know that the grapheme or the letter b, is the same sound in his name, and the representing symbol for the /b/ sound in bus.

The second picture is a story all about an accident that happened with some cars. You can see that the word car is spelled accurately twice as is cast. The words police, accident, and hospital are all also partially spelled here. The “plus” sign near the word hospital isn’t an extra /t/, but the symbol for 1<sup>st</sup> aid, which also demonstrates logographic writing as we just discussed in Ehri’s first phase.

The third image includes a full sentence at the top of the page which reads: Once upon a time there was.... This student is using knowledge of the alphabetic principle in his inventive writing.

Once is written w-u-o (he crosses out p and u to continue next to it). He writes u-p-o and slides in the “n”. He leaves out the “a” and writes t-i-m, omitting the “silent ‘e’”, which at this stage developmentally is appropriate. He spells ‘there’ with the initial sound /d/, indicating that he needs to have this sound explicitly taught or reinforced for him. “was’ is spelt exactly as it sounds, and the “u” that is used to represent /a/ is also completely expected, as the vowel sound that is heard is the schwa.

Other words in his story that we can read here are woof woof, snack, bathtub, tools, tag, brush teeth, and the end.

Each of these three samples show how being in the partial alphabetic phase can be represented in different ways, in a developmental range.

Once children have a solid grasp of the alphabetic system and start becoming capable decoders, they are in the fully alphabetic phase. In this phase a bank of sight words is also being built and stored in memory; many familiar words become sight words.

For this sample, this student’s first language is French and the grammatical structure of this piece of writing demonstrates that. Much of her spelling follows the conventions of the alphabetic system however two words are evidence of areas that she still has yet to consolidate: now vs. know at the beginning of the 3<sup>rd</sup> sentence of the 1<sup>st</sup> paragraph, and the spelling of the word whipped – spelt wipte on the 5<sup>th</sup> line of the second paragraph. She has appropriately included the /t/ sound and the end of the word, because that is what she hears. Not all rules and patterns of spelling have been consolidated and the student is still using some partial alphabetic skills to write (read).

And then finally, when they are fluent and efficient readers, they find themselves in the consolidated alphabetic phase. Here, learners have a large bank of sight words, their knowledge

of spelling patterns increases thereby allowing knowledge of one word to aid in the decoding of other, similarly constructed words. This also facilitates the decoding of multisyllabic and unfamiliar and irregularly spelt words.

This is a sample of an end of Grade 4 student's writing. While there are some errors with the mechanics, this student has spelled irregular words such as cruel, whistling, and orangutans correctly.

The steps of learning to read are referred to as phases because there may be overlaps in development, and mastery of one phase is not necessary for movement into the next, as we saw in several of the writing samples. Skills within one phase build across each other, and skills from one stage to the next are used to scaffold the subsequent phases' skills. For example, in the partial-alphabetic phase, as a learner's knowledge of letters and development of phonemic awareness both increase, they build on each other to reinforce skills within that phase. As these skills develop, that aids in developing and strengthening the sight word skills of the next level, the fully-alphabetic phase.

Like overlapping waves on a beach, with each repetition, and each new exposure to a sound, or to a spelling chunk, new mapping and meaning for that phase is made stronger, and the next phase begins to be built.

This development happens on a word by word basis; names are consolidated quite quickly, but even adults go back to decoding when we encounter words we don't know. So in other words, the difficulty of the text can nudge readers back a phase.

SK: Now Ehri has a pretty comprehensive progression of learning how to read, but there is another way to look at it, and that is Alexander's Lifespan Developmental Perspective. Don't be super alarmed when I flip the slide.



Initially, I was just going to start with this but looking at this almost drove me to drink, so let me unpack it

In Alexander's model, she proposes three general stages that readers progress through during a lifetime: acclimation, competence, proficiency/expertise.

Acclimation: e.g. grade 1

Middle competence: eg. Upper elementary

Prof/exp: adults

In acclimation, readers are still figuring out how it works, in the competence stage they've started figuring it out and are functional readers, and in the final stage, they are proficient, expert readers. So it really follows all of these other reading trajectories, where there is a beginning, an intermediate stage and a proficient, expert final stage.

And another the reason that this model is interesting is that it also looks into how reading development still occurs in adulthood. Alexander calls reading a womb to tomb development.

Within these three stages, she suggests that there are 3 areas that interact with each other to produce six profiles of readers: knowledge, interest, strategies – we will explain each one briefly. Knowledge here can either be domain specific (so the mechanics of reading) or topic knowledge (the content that you're reading). And as readers progress through the stages, both of these knowledge levels should increase over the lifetime – decoding ability and knowledge about what you read.

Interest in this view is either individual or situational.

Situational interest is temporary - it's a momentary interest in something very specific;

individual interest by contrast is a deep-seated investment and involvement. So if think about

reading, we can see that individual interest is something that should increase over time. Initially,

when kids are learning how to read, they might pick up a book because they have an interest in the subject - and that is important because reading is a skill that improves over time. But as people get older and mature in their reading skill, we would like to see people pick up books because they are interested in the pursuit of reading. So while situational interest is very important in the beginning, it levels off over time and we hope that individual interest increases to maintain the trajectory of reading development over a lifetime.

That intersection here in the middle is what we call the 4th grade slump sometimes - that's where situational interest isn't enough anymore in motivating kids to pick up books - we want readers to be individually interested in READING, not just in subjects, and that will be instrumental in their development into expert readers.

And then finally, reading strategies can either be surface level (like comprehension monitoring) or deep-processing (like connecting two texts to each other), and on each of these areas, there tends to be a shift over the lifetime. So we would like to see a shift from surface to deep strategies as time goes on.

So to give an example, younger readers will likely rely on the text to get to meaning - they will be decoding and using basic strategies like monitoring comprehension as they go to ensure they are getting to the meaning of the text. But as the development of a reader progresses over the lifetime, we would see that the way they process text is more sophisticated. Rather than processing at the surface of text, they're doing things like connecting texts to other texts, or thinking about the meaning as a whole and going deeper.

So it gets messy when you put it together, but it really does align with all of the other reading development models. And the reason we wanted to show this to you is because overall,

Alexander suggests that this more nuanced view of reading development offers different profiles of readers as opposed to just “struggling” and “good”, or “poor comprehenders”.

That means that this model provides teachers with more specific areas of where they can nudge readers along a certain trajectory. For example, interest can be met by offering different choices of reading materials, strategies can be taught and modeled, knowledge can be increased.

But also, this view of reading respects that it develops over the life-time – readers are always progressing, so it’s never too late to get into it

KC: Yesterday we looked at the early concepts about reading; the foundational building blocks if you will, that get students on the right path to reading. We looked at the five pillars of balanced literacy instruction, the importance of having strong content, pedagogical and pedagogical content knowledge, as well as how reading develops according to three researchers, Gough, Ehri, and Alexander.

The reason we need to start with reading development, is because of the Matthew Effects.

Students who have some success or who are really good at reading, and who are motivated to choose reading in their leisure, are going to practice more often, and get better at it faster. On the contrary, the kids who need more explicit instruction, struggle to read and who haven’t been well-matched to their reading material, are less likely to choose to read in their spare time, and get less practice. This is called the Matthew Effect: the rich get richer, the poor get poorer. We should mention that in the beginning, that initial difference between “good” and “poor” is tiny. But as time goes on, the divide between the two groups gets larger and more difficult to close. If we think back to Ehri’s phases, we can understand how important it is for those early building blocks to be learnt, so that a strong foundation prevents situations where the Matthew Effects might occur.

So, the Matthew Effects can sometimes be interpreted to paint a dire picture, but the good news is, those late bloomers can still catch up. And getting them reading and building their vocabularies and declarative knowledge through exposure to print is key. In one study that looked at children's reading acquisition in grade 1 and then again in grade 11, a strong relationship was found between children who acquired reading early on, and their likelihood to engage in reading in grade 11. The good news is that the same study found that even children who were reading by 3<sup>rd</sup> and 5<sup>th</sup> grade showed an even stronger likelihood to be readers in grade 11. To quote Cunningham and Stanovich "Children who lag in reading in 1st grade but catch up by 3rd or 5th grade have a good prognosis for their level of future reading engagement." The take-away that we want you to leave with about the Matthew Effects, is that with solid teaching, every child will meet his or her max potential, which is what we are wanting for all our students.

And one valuable weapon we have in this trajectory, is print exposure.

SK: What is print exposure?

You might wonder why we would be talking to teachers about reading for pleasure? Fact is, teachers carry great influence

Teachers might be the only influence in whether or not a child develops a love of reading, so you need to be a good one, and need to know who your students are, where their interests lie, and also have a broad knowledge of texts for your students. And we will talk about this in a little more depth when we get to reading motivation.

But for now, let's talk about why print exposure matters.

*Read slide.*

Research over the last thirty years and more has shown that people who have higher levels of print exposure, so people who read more for pleasure, are just smarter people. We're going to go over these one by one because these are big statements and I want to explain to the best of my abilities why it's a worthwhile enterprise for you to promote reading as this great fun thing in your classrooms, and maybe, I'll convince those of you who don't think of themselves as big readers to pick up something fun.

SK: So saying that reading makes you smarter is bold claim to make. How do we define smart? What about smart people who don't read a lot? It's a big statement to unpack and it could be a whole workshop in and of itself, but here is some empirical evidence that supports the claim I'm making.

Declarative knowledge is the kind of thing that helps you do well on pub quizzes. So to give an example, I have never seen a lute in my life. But I know it has 15 strings because Kvothe the Kingkiller plays one in Name of the Wind. It makes sense that people who read about many things pick up little tidbits of knowledge as they go.

And we know the cognitive act of reading has impacts on the brain. Not only does reading seem to actually change the shape of the brain by making the cortex thicker, it also seems that people who read more are cognitively fitter into older age – for example, reading a lot of pleasure can stave off the effects of cognitive decline.

And interestingly, some research indicates that people who read a lot for fun tend to live longer. Obviously, this is all correlational in nature, but these are just four of the many many papers that research how reading impacts the brain.

Now, this is probably less of a contentious statement. Because after all, reading is a skill and what do you do to improve a skill? Practice. So it makes sense that people who do MORE

reading become better at it. We know that initially, vocabulary helps kids read, but then, reading helps kids acquire vocabulary. We know that reading makes you a better speller because everytime you're exposed to a word in reading, you learn the spelling. We know that people who are efficient at navigating text are better at getting at the deeper meanings. We know that more practice with reading makes you faster and more accurate.

It's like how playing hockey will make you a better ice skater.

It makes sense that reading develops reading skills – like sport. But something that's cool is that reading also develops social understanding.

Like George R R Martin says, “A reader lives a thousand lives before he dies. The man who never reads live only once.”

The human experiences you get to experience by proxy makes you better at human experience in general. We think that this is related to transportability – when a book is really good and and as a reader, you get super absorbed into it, so you almost live in the pages for a few hours, and lets you feel what the characters feel seems to impact social understanding. And what's interesting about this is that we see this relationship only with fiction, which we will get to in just a minute. But books let us experience things that we might never get to experience in real life – fun things like shopping at Hogsmeade, but also more serious things, like fighting for survival in Panem. Books let us live other people's lives for a few pages, and the richness of that experience seems to transfer into “real life”.

So when we use the term social understanding, we can look at it in terms of theory of mind (which is perspective taking), empathy (so feeling the feelings of others), or mentalizing which is the process by which we makes sense of each other and ourselves by being attentive to the

mental states of others. And books also teach us something about morality - we tend to learn from books about what good and moral behavior is, and we see this especially in YA fiction.

And we will get back to this in a little while, but regarding all of the benefits you see here, we're actually talking about fiction.

So you might be wondering how we can make big claims about how much people read. Like, do we stalk you over the course of your lifetime and count the number of books you touch? Almost! Sometimes we use self-report diaries, or rating scales, sometimes we just count books, and sometimes we get people to fill in the ART, which you just did. In the ART, we ask you to check off the names of people you recognize to be authors, We should say here that it SOUNDS like there are a million reasons why this checklist thing shouldn't be the best of these measures, but it seems to in fact be that way.

And you might have noticed that the list contains authors of popular fiction – so we're not assessing how familiar you are with like, niche literary authors.

As we just mentioned, especially when it comes to social understanding skills, fiction and non-fiction seem to have different effects on readers. We know that when measuring print exposure by familiarity fiction and non-fiction authors, people who seem to read more fiction show better social skills than people who exclusively read non-fiction.

And even within that grouping, some research indicates that the quality of fiction matters (Kidd & Castano, 2016).

But the most important part of this is that whatever you read should be fun and pleasurable.

Whether you read fiction or non-fiction, it doesn't matter – it's words in, and it's exercising reading skill.

That said, we do find when there is enjoyment (transportation, emotional involvement), we see that reading differentially affects language outcomes and personality measures

When Kelly and I were preparing this, we got into a whole conversation about how guilty we feel when we're reading for fun, instead of reading papers or textbooks, and then we had a moment of wait a second. That's NOT TRUE. It's classic displacement theory – time spent away from one thing is time spent on another. So time spent on laundry is time spent away from cleaning the kitchen, time spent on corrections is time spent away from lesson planning. That's just what happens when you have only 24 hours in a day. However, we shouldn't feel guilty about reading for fun.

And what's so fun about this is that we all like such different things. Any volunteers to tell us about the last book or two that you enjoyed?

We're taking time to talk about your reading interests and habits because it actually matters for teachers.

It's not just kids that should be encouraged to read a lot for pleasure. We have observed a positive effect of reading for pleasure in teachers. Specifically, you guys! Teachers who value reading in their own lives tend to plan for more best practice instruction. We also have observed that preservice teachers, who like reading, especially those who like reading the same kinds of books that their students might read tend to plan for more hands-on reading instruction.

We argue therefore that print exposure falls under the same umbrella of teacher knowledge as phonemic awareness and phonics does. Knowledge about print exposure can impact classroom instruction just like knowledge of basic language structures can. Teachers who know more about print exposure, and who have higher levels of print exposure plan for more hands-on reading instruction.



It's a double benefit because when you get kids reading, you're giving them all of these positive things we just talked about. Some kids will come into your classroom and tell you about their favourite books. Others will come in and say that they don't like reading. We know that picking a class novel that everyone will like is near impossible. But you can do a good job choosing a book most kids will like – and the best way to go about that is to read what your students like to read. And we will talk more about that in the next session. The point is that when you do a good job choosing books or directing kids to books they will like, you're doing something that's really good for them. They are increasing their Comprehension, their Reading Fluency, their Vocabulary, their Spelling, their phonological abilities, their general knowledge, and they are getting better at reading. You have the power to influence what children think of reading.

KC: So to summarize

We know that kids are primed to learn to read when they are young; phonological awareness development in the toddler and preschool years is optimal. All the sing-song nursery rhymes and word-play poems are a natural way for kids to develop their phonological awareness, which is a building block of reading and spelling. While some children pick up phonological awareness more easily than others, it needs to be explicitly taught. and although we don't have time to expand on the topic here, we wanted to touch on it, to emphasize that it is an auditory skill, one that is said, can be taught and learned in dark. We also want to emphasize that kids come into school with varying levels of phonological awareness skill, so it's a teacher's job to level the playing field in the earliest years of schooling.

Today's classrooms look very much different from the classrooms 20, 30 and 40 years ago. The level of reading instruction was much more homogenous in schools, where weak students were put into 'spec ed' classes, for example. Today, we see classes where in grade 6 there may be a

range of readers: from those who are fully accomplished, decoding and comprehending texts far beyond their grade level, to kids who struggle to decode the simplest texts. It used to be that an upper elementary teacher's mandate was to develop comprehension strategies and widen their students' exposure to literature, and the learning-to-read piece was done at the primary level. But today teachers at all levels need to have a foundational knowledge of how children learn to read, and how to intervene regardless of the grade level. We need to be taking a much more developmental approach to teaching reading and intervention.

As demands of reading are increased through the grades, those 'switched-on' kids pull ahead of the ones who struggle. This is where it's important for teachers to really know their stuff. If the kiddos who have been getting good teaching are still not picking up the phonological awareness and other foundational skills, teachers need to be able to identify where the gaps are happening to target their intervention. If this sounds a little familiar to you - this is exactly what we were talking about when we told you about the Matthew Effects. In the beginning, the difference might be quite small, but intervention is crucial in making sure that this gap doesn't widen. So in continuing our discussion about the role of teachers, beyond teaching and developing foundational skills, we also think that the teacher can play a pivotal role in guiding children down a path of becoming a reader. Alexander states:

*Read quote*

We will come back to this, but as we have said, and it will be a recurring theme over the course of these sessions, the influence that teachers have on students, and their development of identity as readers, is significant.

So now we are going to do an activity that we hope will make this notion tangible.

Teacher metaphors: some are gardeners, some are guides, some are drill sergeants, but when it comes to reading, we think that the role of the teacher is to shine a light down the path, to invite children to go down that road with them, to discover together, to introduce new friends (characters)

So we did this activity with a group of pre-service students and found it to be a really rich experience. In a moment we are going to send you a link to a google form in a chat. We are asking you to complete a quickwrite on a topic listed on the Google form. We will time you but we don't want you to worry about grammar or spelling, just get your thoughts on paper. We'll do this three times, with three separate prompts and then have a discussion about what you wrote, if you want to share.

We want you to think about your own school years – especially reading related memories

- What do you remember about the reading instruction you received in your own school years?
- What are you doing the same as your teachers?
- What are you doing differently from your teachers?

SK: Why are we asking about your experiences? Why are we teaching YOU about this? Who are you guys?

You carry infinite power in shaping what your students learn and like and take from school.

We call this the Peter Effect, and it basically is a way of summarizing the idea that one cannot give what one does not have and we use it to refer to teacher knowledge – you cannot transmit knowledge that you don't have. I cannot teach you about physics because I decidedly do not have the knowledge. And in the research, we find that this is true for reading – both in terms of

pedagogical content knowledge and content knowledge, but also when we talk about an excitement or passion for reading.

We're going to level with you for a moment - we had planned for a whole bunch of interactive activities, and we're trying our best to still incorporate most of them. But we had planned to come back at you after a lunch break with an activity.

We were going to put you guys on the spot. I was going to say: okay, everybody, we're going to take turns reading this paragraph sentence by sentence.

Sandi, our advisor was going to read the first one - and she was literally practicing reading this sentence out loud weeks ago. Kelly was going to read the next one, I was going to read the third and then I was going to point at someone random in the room and say YOU. You read the next sentence. And then we'll go clockwise.

Now, to do this, we had to pick a difficult text because we're all pretty good readers, but I don't know how many of you are familiar with drosophila flight patterns and neuro-modulatory circuits. If you are, please explain. But this should be making think of a few of things we already talked about: the importance of language comprehension and decoding ability in reading comprehension; the level of difficulty of a text.

Why would we do that? Would ANYBODY be happy if we did that?

(Unmute for discussion).

KC: So, we were never going to let that continue onto the group here. But what we did want was for you to maybe experience what some readers experience when they are placed in the situation of having to read without first having the chance to rehearse the text.

Did any of you feel good about what was about to happen? Do you think you would have had feelings of anxiety of the thought of being selected? Would you have tried to gauge when your turn might

come around? Would you have been attending to the message of the text? Or would all of your cognitive load been taken up with anxious thoughts and estimating when it would be your turn to read? At best you were able to follow along no problem, but having to listen to one of us butcher some of the more complicated words might have been enough for you to either read ahead on your own, or daydream. In either case, not a lot of engagement is taking place here.

We're going to talk about round robin reading a little more later on but this is just a little demonstration to show you how much power teachers can carry. This is true in general, but also for specific subjects. A good teacher can inspire a student to pursue a career in teaching, a good science teacher can create scientists, and a good teacher of reading can inspire readers.

Conversely, you can make reading horrible for students, and that makes them less likely to choose reading as something to do in their free time.

Why would we care what students do in their free time? (Answer: print exposure)

SK: Hate is a strong word because, ultimately, why we understand the reasoning behind why teachers would do this – it seems like an easy way to assess reading fluency, and we might be led to think that everyone is paying attention because each student has to read and know where they left off. But we find that none of these benefits are true.

KC: So if we aren't using RRR then what ARE we doing? It has been my experience across grade levels that kids in general enjoy readers theatre and choral reading, which isn't print. So thinking about round robin reading, we know that having children read out loud, from a text that is unfamiliar to them, is not a good application of what we know about the what and how of teaching.

From a content perspective, we know that each learner needs practice with texts specific to their ability to scaffold development of their reading skills. We also know from a pedagogical

perspective that depending on where the student is with regard to knowledge, interest, and strategies, as Alexander discusses, we will need to know what that will look like for the students in our class, at this point in time. We also know from our own experiences how it feels to be put on the spot, for any skill or situation, frankly, but especially to read out loud in front of a group, a from an unrehearsed text.

The benefit to both these activities is that differentiation is built-in; reluctant participants can be paired with stronger readers for good modeling, can be provided with lots of opportunities for practice, and can also rely on memory strategies come 'performance' time after repeated readings. Stronger readers can be given longer, more difficult parts, and weaker readers can be given text that is more appropriate for their level. Passages or roles can be re-written to accommodate individual students, and roles can be shared among 2,3, or more students. It is important to keep in mind that as with any literacy activity, the appropriateness of the text is essential. If a student can't read the text, the activity isn't appropriate. I've heard comments from teachers who have seen these activities being conducted with non-readers, and I wanted to make that explicit.

A fun twist on these activities could be for students to write their own piece of theatre as a project, either in language arts, or in collaboration with the drama, science, or social science teacher, for example. Content about New France could be written into a short script for students to act out for their peers or school. This is cross-curricular learning that reinforces language skills while building content knowledge and vocabulary – all factors that contribute to comprehension. If we think back to the slide about pedagogical content knowledge, this is where knowing what to teach, and how to present it to students comes into play.

So thinking about round robin reading, we know that having children read out loud, from a text that is unfamiliar to them, is not a good application of what we know about the what and how of teaching.

From a content perspective, we know that each learner needs practice with texts specific to their ability to scaffold development of their reading skills. We also know from a pedagogical perspective that depending on where the student is with regard to knowledge, interest, and strategies, as Alexander discusses, we will need to know what that will look like for the students in our class, at this point in time. We also know from our own experiences how it feels to be put on the spot, for any skill or situation, frankly, but especially to read out loud in front of a group, a from an unrehearsed text.

SK: So we've mentioned reading motivation casually throughout and it seems pretty clear – I think everyone knows how it feels to be motivated and how it feels to lack motivation. But what exactly does it mean?

What does it mean to you? How does it translate into teaching for you?

You can find a ton of slightly different definitions in the scientific literature or textbooks – and the people who wrote the following definition have had the same experiences. So they took all of the papers they could find on it, and synthesized them to come up with one definition.

So it's the why someone choose to read.

But in psychology, we distinguish between intrinsic and extrinsic motivation.

Whereas....

And if we're honest about it, most reading you assign to your students will be rooted in extrinsic motivation because they HAVE to do it.

But... there is another view of reading motivation that we find a little more useful for teachers. It still differentiates between intrinsic and extrinsic motivation, but it breaks extrinsic motivation into 4 separate categories, like a spectrum, with one being close to intrinsic motivation and one being close to amotivation, so the absence of motivation to read.

This makes it look more like a spectrum, so even if though intrinsic motivation is not something you can just make happen for someone else, you don't have to resign yourself to providing only straight up extrinsic motivation types of activities. Extrinsic motivation in this model is split into several categories and the argument is that someone on THIS end of reading motivation is closer to intrinsic motivation than they are anywhere else and you can GET them THERE.

So the fact is, we have to go to school, and within school, we have to read or as teachers, we have to assign reading. But we don't have to rest on that left part of extrinsic motivation.

Extrinsic motivation is not the same across the board.

First, I'm going to give you some examples, starting left to right.

Amotivation is the complete lack of any motivation, and that's clearly something we want to avoid.

External regulation: behaviours to satisfy external demands (i.e. reading because you get in trouble if you don't do your homework).

A lot of schoolwork can fall into this category, especially when the assigned reading does not meet the psychological needs for autonomy, for competence, and for relatedness, which we will talk about in a little bit.

For me, exercise is a good analogy for all of these. I exercise because my trainer will be mad if I don't. Once that need to satisfy external demands no longer exists (i.e. once my trainer no longer works with me), I'll be unlikely to engage in this activity.



One step down that continuum is Introjected regulation: performing because of pressure to avoid guilt or anxiety, contingent self-esteem. I only feel good about myself if I do it. I read because I feel bad if I don't.

E.g. I like my teacher and i feel guilty if I don't do my homework reading.

Or, I exercise because I feel guilty if I don't.

And again, if I no longer have that person or that external demand in my life that I feel responsible to, I am unlikely to engage in the activity.

Identification: you identify with the importance of a behavior. I read because I know it's good for me. I exercise because I know it's good for me.

Can we see how this is different to the first two? There's a little bit of an internal drive here - I recognize the importance of the behaviour, probably because someone has done a good job showing me, and probably because I've sustained it long enough to see the benefits.

Most autonomous form of extrinsic motivation – it's like intrinsic motivation (you feel the value of doing something) but it's still regulated by external demands.

I still exercise because I have to – I will never be a natural athlete, but I feel the value of sweating and lifting weights because it makes me better. Value is better than importance here.

It's a very subtle distinction but importance is still contingent on a more external force, but value is related to internal feelings. It's not quite as powerful and pervasive as intrinsic motivation, but it's darn close.

We talk about print exposure being out of school reading and how does in-school reading, and your role as the teacher filters into that – and this is one way. Because when kids feel autonomous, competent and find the work is relatable and relevant to them, they are more likely to see the value of it.

If the reading assignments can meet the needs for autonomy, relatedness and competence, then you're doing a good thing. It's the same thing for exercise. It was only when I felt like I was competent in what I was doing, and was able to relate the value of the workouts to my every day life (i.e. I carry a backpack around so strengthening my lower back is a good idea).

So here, there are specific things you can do in a classroom to satisfy this need for autonomy, and Kelly will speak to those in more detail. A lot of it is providing choice in as many ways as you can. Reading is personal, so respecting that everyone likes different things is already a big motivating factor. This also swings back to Alexander's area of interest - leveraging situational interest to develop individual interest is a good way to get kids invested in reading.

When we talk about relatedness, we kind of touched upon it in an earlier conversation. Reading that is pleasurable is intensely personal. When we talked about how reading impacts social understanding, we're talking about things like transportability. That's hard to get to with artificial texts. While it sometimes is impossible to get around the texts written for comprehension purposes, we do see that providing reading materials that are relatable to kids will help motivate them to read. Beyond that, fostering an environment where books are shared and discussed is pivotal here as well. Relating to other readers is as much part of it as relating to the text.

Finally, competence refers to what the Matthew Effect gets at: for reading to be fun, the reader has to feel competent at it. Activities that are difficult and raise self-doubt in the ability to complete the task at hand are inherently unmotivating. So here, we're talking about providing activities that are at the right level for the students.

Now why are we looking at these in so much detail?

Well we find that when we teach teachers about self-determination theory and the importance of autonomy-supportive teaching, and how to meet need for competency and relatedness, we find that teachers reflect this in their teaching, which in turn affects their students' reading motivation. And what's kind of cool is that in this study, they found the effects especially in boys, who are usually less motivated to read across the board than girls.

KC: So going back to day one when Stephanie talked about planning with objectives, with intentionality, when planning for a reading activity we want to think about why we choose this activity for our students. What is the objective behind this specific reading activity? While considering the individual students in our class or classes, we also want to be thinking about how we can choose activities that can be differentiated to reach all students, but also meet the requirement of the curriculum.

If we look at an activity like silent sustained reading, also sometimes called independent reading, we find that this can be a much richer experience than what it looks like on the surface. We recognize that independent reading isn't sexy; it's a really a pretty basic activity that to the untrained eye looks like some lazy teacher gave the kids a block of free time to read, right? But we know that some pretty skilled work has to happen behind the scenes however, to create that richness.

Although students are provided the autonomy to choose whatever they want to read for this activity, we all know they don't all know what they want to read. Students need to be matched to the right texts, and this goes back to what Stephanie mentioned about print exposure. Having a broad knowledge of books that your students like, or might like to read, is essential. Providing an opportunity for conversation and sharing about the books your students are reading also needs to be planned. This could be the 10 or 15 minutes following your reading period. This makes the

act of reading relevant and allows for that relatedness component to happen: students make connections about what they are reading both cognitively and socially, which is also a benefit of print exposure. Lastly, when the teacher sits and models the activity WITH the students, the students get confirmation that this is a worthwhile activity. Think about anytime that you get involved in an activity with your students- get into the basketball or soccer game at recess, make art with them, sit and share a meal with them - they really engage with you. Leisure or independent reading time is no different. AND if you happen to read a book that THEY would be likely to read, the impact is even greater. And I know that it is tempting to do other things - filing, answer emails, correct a quiz -during those 20 or 30 minutes. But the impact that you sitting and reading will have on your students is significant. Now, some people suggest using that time to conference with your students - and that can be a worthwhile use of the time as well. This might be the time you and a student discuss the genres of texts or authors they like, or can be switched onto. Just be sure that your students witness you taking the time to do some independent reading yourself each week.

And if you find yourself in a new grade or unfamiliar with many of the authors and texts your students are reading for another reason, this is the perfect time and opportunity to get caught up. You can even solicit your students' opinions of books during those discussion times. When they get to be the authority and share about a book they're reading, they are building competence and identity as a reader - someone people go to, to for information -about books.

So to talk a little bit more about what to offer to your students in terms of genres and texts, we wanted to suggest a few resources and ideas. If you are not familiar with Jennifer Serravallo, she has several great resources for teachers on reading, writing, and texts. In this specific book she talks about many of the literacy activities we will touch on today, but goes into much more detail

than time allows for here. It basically provides you with content about each of the levels of reading, and what you can expect to see in each characteristic of a non fiction or fiction text.

Another suggestion that we wanted to share was organization of the classroom library. You can consider using genre, topic, or interest to organize your library if you aren't already doing so.

You can also have your students suggest how they would like to see the library organized, and have baskets or shelves dedicated to "picks" by students, just like Heather at Indigo.

There are also websites that help with text selection. The "What should I read next" search engine allows you to type in any book title and you'll receive a list of similar books, aligned with the genre and themes of your original book. There is an equivalent french site called A Go, On Lit.

We also wanted to highlight our own phenomenal resource which is from right here in our home province, the Quebec Reading Connection. If you aren't familiar with this resource, the QRC curates and provides information and lessons for thousands of recommendations that are hand-picked and thoughtfully chosen for all levels and subjects of learning that are aligned with the QEP.

Literature circles are another example of an activity that meets all three criteria for developing motivation. I expect most of you are familiar with literature circles, but we wanted to highlight how Lit circles address autonomy, competence, and relatedness.

To review quickly, Students choose book based on interest, not level. Which addresses autonomy. Students practice reading(comprehension) strategies and contribute/support each other by reading chapters or sections through a specific role or lense, and as such communities of readers are developed around literature, book genres. This builds competence as the reader experiences the feeling of being part of a social or peer group, while also successfully accessing

the text he or she chose. Of course you as the teacher will have preselected the books respecting the abilities of your class. But we also know that there are often students who are far below (or above!) the reading levels of the majority of the class. In these instances I have tried finding audio copies of the text, or creating them myself. Sometimes you can also find the same text written at a different level. Reading A-Z used to offer this in their database, and I used it frequently. This way, the students can access the text at their level, and complete their role and develop their comprehension skills along with their peers.

This also fosters that relatedness piece that know moves students along that motivation continuum. With a teacher's help, students can develop a reading identity, and learn who they are as a reader, what genres they like, through lit circles as well as other literacy activities.

Students need to see themselves represented in the books they read (Bishop, 1990). Conducting interest surveys throughout the year to get to know the (reading) interests of your students, and curate/ promote books according to the information you collect can help you to do this.

Instead of focusing on reading levels, consider have a conversation about what the child is doing well, how a particular text might help them develop skills, and most importantly, what interests them as a reader. We don't want to pigeon-hole them into a level nor do we want the student to avoid challenging themselves if there is a text they're interested in that is just beyond their level.

Seravallo suggests that reading levels have a "practical utility" but that it is the teacher's deep knowledge of the student, that pedagogical knowledge, that should be the determining factor of how to support a child's choice of texts.

Lastly, relatedness is developed in a variety of ways with lit circles. First there is the interpersonal exchanges that take place in the small group interactions and the development of communities around the exploration of literature. But there is also the element of the text itself

that, depending on the choice of books you have made, expose students to a range of experiences that could develop perspective-taking, empathy, and social understanding, which is specific to fiction reading.

When looking at Guided reading as a literacy activity to develop autonomy, competence, and motivation, the approach needs to shift. Frequently readers do not have choice of text, especially when using guided reading groups. With guided reading, the objective is for students to develop strategies that they will eventually internalize and use when they are reading independently. This is the take away we really want to emphasise here. As these strategies become more fluent during independent reading, they will have a shift in their motivation from external regulation and reading as an academic act, to reading as an internally motivated choice.

As I mentioned yesterday, Fountas and Pinnell have a resource that is truly comprehensive when it comes to providing information about text levels, from how text genres differ in characteristics, to the content of each characteristic, for each reading level.

As with guided reading, the objective of using Close reading, is to explicitly model comprehension strategies, and for the student to transfer those skills to independent reading. In the older grades, modelling of thoughtful annotating and note-taking, as well as modelling of careful re-reading is encouraged, to develop deep meaning-making of the text.

Read slide: The text is highly visible to all – displayed on Smartboard or similar display. The teacher plans frequent stopping places throughout the text. The text is short, but complex or interesting. Rereading is very common.

With close reading, open-ended prompts are used to solicit higher level thinking. We want to get students thinking beyond surface level comprehension skills as we discussed using Alexander's reading model. And while you might consider this an activity that might be done with upper

elementary and secondary students, primary students are capable of considering these types of questions too.

- The story is set in \_\_\_\_\_ why is that important?
- How would using a slightly different word change the meaning? for example from the earlier text words shrink things that seemed limitless when they were in your head. What if the author had used the word big instead of limitless? How would that have changed the way you understood the text?
- On an earlier slide we mentioned that students exchanges between each other is encouraged - and frankly it's good practice with all types of literacy activities -especially when we consider literature circles and interactive read alouds, which we will discuss next. But I wanted to pause from looking at specific literacy activities to discuss talk moves.
- If you aren't familiar with talk moves they are specific phrases that are intentional in nature, to facilitate communication. There are student talk moves and teacher talk moves.
- Now of course these student talk moves could be used in a meeting with your colleagues -but in a classroom setting, these are the talk moves students would be encouraged to use.
- For example, to contribute an idea: I think that,... I wonder if..., the way I see it is...
- Or to challenge or ask for the evidence you might say: Can you give an example of that? What makes you think that? I don't agree because .....

This is another set of student talk moves - ones that might likely be used in secondary school, or the upper elementary grades, depending on your students.

Using talk moves, the teacher 'floats' around room, guiding/coaching individual student's contribution to the conversation.



The purpose for teacher talk moves is to provide structure to student conversations as students learn to develop this talk skill.

And although we are focusing on reading in this series of workshops, it is important to keep in mind that reading, writing and talk are all very tightly woven together. It is essential to give students the time to talk and exchange WITH EACH OTHER, to break apart a text, and to put it back together in terms that they understand.

So we might ask a student : Why do you think that? if they have given an answer that seems to be at surface-level, or if we are unsure that they really fully understand the comment they have provided. It delves into the student's deeper thinking.

If you wanted to make sure that you understood a student's statement you might Revoice their statement, in different words: So you're saying that \_\_\_\_\_. Did I understand that correctly?

One of the most important talk moves a teacher can use is Wait time: Giving students the time they need to process their understanding, or to compose a reply is crucial. You might say: "Take the time that you need to think about it." or " I can see you are thinking about it. I'll ask someone else then come back to you. "

What seems like an eternity for us teachers, is really only seconds of wait time. For some students, recalling information takes longer, especially if we are to consider second language learners, and young children whose memory stores might not be as fluid or flexible, as information is being taken in at a rapid rate. Allowing extra wait time provides the space students need to recall information, and strengthen those knowledge pathways in the brain. It also helps to alleviate anxiety some students might feel about being called on or speaking in front of the class, as we discussed with round robin reading.

So what is the objective of an interactive read aloud?

At the kindergarten level, as seen in this picture, students are developing their print awareness while at the same time being encouraged to ask high-level questions through a variety of prompts such as completion, recall, wh- prompts, and distance. A completion prompt might be asking the children to finish a sentence or phrase that is repeated in the text, such as “you monkeys you! You give me back my caps! From the story *Caps for Sale* by [Esphyr Slobodkina](#) . A recall prompt might be to ask what colour all the caps were, or what the vendor ate for lunch? Distance prompts are questions that ask students to make connections to other texts, or events in their own lives such as: have you ever seen a monkey in real life? or do you know of other books that have monkeys as characters in them (Curious George, Dora the Explorer). WH- prompts might ask students to discuss what are the common characteristics of monkeys ? Why did the man want to sell his caps?

The objective for using this activity is to demonstrate to students how to use many strategies simultaneously, and to provide direct, explicit support for a new learning goal. It also provides opportunities for meaning-making through dialogic activities, and supports the development of annotating and note-taking skills in the older grades. As with Close reading, relatedness and competence are fostered here.

This can be a rich activity in your class, if it is planned for with intentionality. Knowing what your objectives for the lesson are will help you to focus when and how you will prompt your students. The same book can be used several time, with a different purpose, depending on what your learning goals for that particular lesson are.

Popular prompts include turn-and-talk, or think-pair-share.

Are any of you familiar with stop-and jot?

The stop-and-jot strategy can be done on white boards or, if you want you students to have those notes to use at a later time, post-it notes and a special section of your writer's notebook can be designated for stop-and-jot notes.

During your read aloud, students would be equipped with clipboard & post-its, where they can take short notes that they will develop later on during a writing period. For younger children you might have them draw a picture to put their thoughts and connections on paper.

This is an anchor chart that a teacher posted in her room, for students to refer to for a variety of prompt types.

These are a few examples of what stop-and-jot pages in a writer's notebook might look like. I took these from an online source and although these are the teacher's samples, you can see how this strategy can be differentiated to meet each student's needs.

Another teacher uses these bookmarks to help remind students' of some of the important places in a story that help us understand a text better, and how we can attend better to them. This teaches students to be thinking about the text as they read.

Similar to inter-active read-alouds, video read alouds are great to use with older students especially, to use a medium that they enjoy, to motivate them to apply and develop reading strategies.

- Students respond to video/ media
- 3-5 minutes in length
- Movie trailers
- Music videos
- Short documentaries, clips
- prompting points (use time markers like page numbers)

The stop and act prompt is similar to stop-and-jot except here you are getting students to act out the connections they are making. This could be a nice cross-curricular activity for a drama class, science or GHC. This strategy can be particularly useful for younger students for whom writing is laborious or not an option, as in kindergarten and early grade 1. This is also a good strategy for second language learners, for whom acting out allows them to connect and be a part of their peer group, developing relatedness, without the constraint of limited vocabulary to limit their involvement. There is a whole field of research on second language learning; J Cummins and Fred Genese from McGill university are prominent in the field. We don't have time to address this topic here but if you are interested in knowing more please contact us and we can point you in the right direction for some resources.

These video alouds can even be used in a Literature Circle framework, where students sign up for a variety of audio and lyric samples, just like they would a book. Roles are the same: word finder, connection director, etc... but the activity stays fresh and novel by changing the media we use.

As far as developing those autonomy, competence, and relatedness traits? skills? they too are similarly developed as with read-alouds.

