Abstract

The overarching purpose of this research program was to describe how intervening for academic deficits may be accompanied by changes in mental health. This multi-dimensional, multi-perspective, and iterative research program was developed to report on two distinct but related studies that addressed the same issue: in what ways does the mental health of students change as they transition from being struggling readers to more able readers? To describe the changes, these studies used a number of qualitative research methodologies—focus groups, individual interviews, and ethnographic case studies. Themes that emerged from the focus group and interview data in the first study were used to create a model that guided observations and interview questions in the second study.

The first study described what parents, classroom teachers, and two reading instructors of nine previously struggling readers reported as the outcomes of becoming a more proficient reader. Data from this study indicated three broad domains in which change, as perceived by participants, occurred—cognitive/learning, behavioural/social, and psychological/emotional. Within these three domains, six dimensions were identified as having changed as reading improved: (a) academic achievement, (b) attitude, (c) attention, (d) behaviour, (e) mental health, and (f) empowerment. These domains, dimensions, and 15 constituent elements were used to create the model to guide the subsequent study. The purpose of the second study was to validate and refine this model by using an ethnographic case study approach to explore the ways in which the model accounted for the changes in reading and mental health seen in three boys over the months they participated in the intervention.

By investigating the relationship between learning to read and mental health, this research aimed to enhance our understanding of how gains in reading may also improve the

ii
mental health of struggling readers. The model was found to be robust and a convenient conceptual framework to further our understanding of this relationship. Importantly, gains made in the cognitive/learning domain through an effective reading intervention, offered in a supportive learning environment, were shown to be accompanied by concomitant gains in both the behavioural/social and psychological/emotional domains—all of which enhance student thriving.
Acknowledgements

It is with deep and heartfelt gratitude that I thank my supervisor, Dr. Nancy Hutchinson, for her unparalleled guidance, patience, and support as she worked alongside me on this journey. If it was not for her academic adeptness, her commitment to shared learning, and her deep understanding of the struggles experienced by many students, this dissertation would not be what it is today.

I am also indebted to the members of my committee, Drs. Lynda Colgan and Derek Berg. With a critical eye and attention to detail, Dr. Berg provided feedback that greatly contributed to a defensible and robust manuscript. In addition to her invaluable academic contributions, Dr. Colgan provided support that nourished my being. The members of my examining committee also need to be recognized for their commitment to the process; while providing both “big picture” perspectives and suggestions to the minutia, I felt supported and challenged as an emerging scholar. Specifically, I extend this gratitude to Dr. Jacqueline Specht, Dr. Andrea Martin, and Dr. Maria Plazas.

It is also essential that I thank the participants in this research, without whom, I could not have succeeded. The two reading instructors in particular were, and are, clearly devoted to extending our understanding of how to help struggling readers, and how research such as this has the potential to enhance both the academic learning, and lives of these students. In addition, the parents, classroom teachers, and students, who agreed to participate in this research, provided invaluable perspectives that humanized the findings, compelling us to see beyond the academic implications of learning to read. To each and every participant, I thank you.

Finally, and certainly not least, I would like to thank my family. Mom and dad, even though you wondered if I would ever finish, you kept your fingers crossed. And Lou, thanks for lending an ear, and for being there. My daughter and son are likely closest to this experience as they have traveled the path with me; Devon and Brandon I thank you deeply for each and every day—especially all those days that dinner was late, and when the bike ride, swim, or hike had to wait for a while.
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Chapter 1

Introduction

Being able to read means much more than simply putting letters and sounds together and deciphering words. This dissertation describes changes in the mental health of struggling readers as they became more able readers through participating in an intensive reading intervention. There has been surprisingly little work in this area despite the experience and conventional wisdom of parents and teachers acknowledging the interrelatedness of compromised mental health and reading difficulties.

This research reports on two distinct but related studies that addressed the same issue: in what ways does the mental health of students change as they transition from being struggling readers to more able readers? To describe the changes, these studies used a number of qualitative research methodologies—focus groups, individual interviews, and ethnographic case studies. Because multiple perspectives can enhance depth, richness, and trustworthiness of the data, parents, classroom teachers, reading instructors, and the students were invited to participate. All parents of focal students, from the reading intervention whose data were included in the study, were invited to take part. However, only female parents and guardians chose to partake; all adult participants—parents, educators and the researcher—in this research were women.

In the context of this dissertation, the understanding of mental health is consistent with that adopted by the Canadian Mental Health Association which emphasizes a state of well-being that enables individuals to realize their abilities, cope with life’s challenges, and contribute to their communities (based on the definition of the World Health
Organization, 2001). For both studies, reading difficulties were defined as any deficit in reading skills that resulted in the student reading at least one grade level below his or her peers. The grade level of struggling readers was assessed using the Oral Reading Index of the Gray Oral Reading Test, Fifth Edition (GORT-5). This index is a composite score combining fluency and comprehension scores. Deficits in poor readers can occur in any skill area such as phonemic awareness, phonics, vocabulary, fluency, comprehension, or, in any combination of these skills.

The two studies were conducted with participants in one reading intervention. The Reading Room (a pseudonym) was privately operated, making it accessible only to those families who were financially able to cover the costs or those who were able to procure funding from community agencies. Students attending the intervention had generally experienced substantial and sustained difficulties in reading prior to enrolling. The reading intervention, offered in a mid-sized city in Ontario, was research-based and used direct instruction to provide systematic and sequential lessons that focused primarily on the development of decoding skills and on comprehension when it presented as a problem. Following an initial diagnostic assessment, 50 hours of intervention were delivered one-on-one in one of two formats; two hours per day for five weeks (for students in Grades 5 and higher) or one hour per day for ten weeks (for students in Kindergarten through to Grade 4). All the students in this research initially attended one hour a day for ten weeks. Students attended their home school for the remainder of the day during this time. At the end of 50 hours of intervention, each student was reassessed to decide whether the student required further intervention at The Reading Room or whether the student was ready for less intensive supports provided at home or at school.
The intensive intervention model, with individual instruction, remediated reading difficulties of students who were reading at least one year and usually two years behind their peers, by teaching foundational and developmental reading skills such as phonemic awareness, phonics, fluency (accuracy and speed), vocabulary, and comprehension. These skills are consistent with those identified by the National Reading Panel (NRP) as essential components of an effective reading program (National Institute of Child Health and Human Development, 2000). Morphological awareness (word meaning) has also been recognized as an important component of instruction (Carlisle, 2010) and was included in the intervention provided by The Reading Room.

**Purpose of the Research**

This two-part research program used an iterative multi-dimensional, multi-perspective approach. The first study described what parents, classroom teachers, and two reading instructors of previously struggling readers reported as the outcomes of becoming a more proficient reader by participating in an intensive reading intervention. Themes that emerged from the focus group and interview data in the first study were used to create a model that guided observations and interview questions in the second study. The second study used a case study approach to explore the ways in which the model explained the changes in reading and mental health seen in three students over the time they participated in the intervention.

The overarching purpose of this research program was to describe how intervening for academic deficits may be accompanied by changes in mental health. By investigating the relationship between learning to read and mental health, this research
aimed to enhance our understanding of how gains in reading may improve the mental health of struggling readers. The specific purposes of each study were as follows:

**Study 1:** To unpack the relationship between learning to read and mental health through reporting and analyzing the observations and perspectives of parents, classroom teachers, and reading instructors of struggling readers who have concomitant mental health concerns. To develop a model of this relationship to enhance our understanding and to guide the subsequent study.

**Study 2:** To validate and refine the model developed in the previous study through an ethnographic case study analysis of three struggling readers who have been identified by their parents as also having a mental health concern. This multi-perspective study synthesizes observations and interview data of reported changes in the mental health of these students as they participated in the intervention and their ability to read improved.

Both studies addressed aspects of potential change that include, but are not limited to, changes in attention, attitude towards reading, self-efficacy for reading, and reading performance, as well as any changes in emotional and behavioural characteristics.

**Rationale**

Until recently, mental health concerns were referred to in the literature predominantly as emotional and behavioural disorders (EBD), based on students’ presenting symptoms. The terminology has transitioned to a language that refers more specifically to mental health and sometimes to the broader construct of well-being (Morgan, Farkas, & Wu, 2009; Morgan, Farkas, & Wu, 2012). Because the literature
reviewed for this research used both the older and the more current terminology, I have used both, when reviewing the literature, depending on the language used in the original document.

Research suggests that reading difficulties and compromised mental health often occur together in the classroom. Mental health concerns frequently manifest as inappropriate classroom behaviours and earlier studies generally referred to problem behaviours, or EBD, as being related to reading difficulties. However, studies have been inconclusive about the nature of the relationship; some studies suggested a reciprocal relationship (Hinshaw, 1992; Trzesniewski, Moffitt, Caspi, Taylor, & Maughan, 2006) while others supported either reading (Morgan, Farkas, Tufis, & Sperling, 2008; Trout, Nordness, Pierce, & Epstein, 2003) or behaviour (Katsiyannis, Ryan, Zhang, & Spann, 2008; Wehby, Lane, & Falk, 2003) as the cause of difficulties in the other. Studies and reviews have shown how challenging it is to intervene effectively to change problem behaviour and have demonstrated that academic skills, like reading, continue to deteriorate when intervention has been focused primarily on changing behaviour (e.g., Coleman & Vaughn, 2000; de Lugt, 2007; Lewis & Sugai, 1999).

Less is known about the effect that intervening to remediate reading difficulties may have on the mental health of students. A few studies have indicated that there is an association between reading difficulties and low self-esteem (Ingesson, 2007; Singer, 2008), anxiety disorders (Dahle, Knivsberg, & Andreassen, 2011; Wilson, Armstrong, Furrie, & Walcot, 2009), depression (Dahle et al., 2011; Maughan, Rowe, Loeber, & Stouthamer-Loeber, 2003; Wilson et al., 2009), and suicidal ideation (Dahle et al., 2011; Daniel, Walsh, Goldston, Arnold, Reboussin, & Wood, 2006; Wilson et al., 2009).
In the school context, the concept of thriving has become a useful lens through which to view student success and may help us to understand how academic and mental health domains work together to contribute to well-being. Thriving is conceptualized as either a state or a process in which individuals are on a path towards full potential (Heck, Subramaniam, & Carlos, 2010). Morrison and Peterson (2013) have suggested that in order to thrive fully, students need to thrive in three areas: cognitive, behavioural, and affective. It follows that helping children and youth to reach their potential in these domains will enhance their ability to thrive. Morrison and Peterson (2013) have argued that success in these domains positively affects psychological well-being by satisfying the critical human needs for autonomy, relatedness, and competence as posited by Ryan and Deci (2000).

Although there is a documented relationship, albeit not well understood, between mental health and reading ability, what is missing from the literature are rich descriptive accounts of what changes occur in mental health when interventions target academic deficits such as reading. This is surprising given the large numbers of students who are reported to experience reading difficulties simultaneously with mental health concerns or problem behaviours. Researchers, like Morgan et al. (2008), suggest that research focus on whether enhancing reading can result in improved mental health and a reduction of problem behaviours (Morgan et al., 2012).

**Terminology**

Mental health terminology is often used ambiguously and inaccurately. To avoid confusion and enhance clarity, this section defines how the terms are used in this dissertation:
**Mental health** is defined by the World Health Organization (WHO) as the “state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community” (World Health Organization, 2001, p.1). This definition has been adopted by the Canadian Mental Health Association and is the definition used in these two studies.

**Mental illness**, as defined by the Public Health Agency of Canada (2006) is “a biological condition of the brain that causes alterations in thinking, mood or behaviour (or some combination thereof) associated with significant distress and impaired functioning” (p. i). A person with a mental illness can have good mental health and those with positive mental health are better able to cope and manage their mental illness. Although all of the participants in these studies experienced mental health concerns, as expressed by their parents, only one in each study was diagnosed with a mental illness.

**Well-being** is a broader, holistic concept that integrates mental health (mind), physical health (body), and social health. Dodge and colleagues (2012) suggested that a state of well-being is achieved when a person has the psychological, social, and physical resources to meet specific psychological, social, and physical challenges. Mental health is a state of well-being. In this document, well-being refers to this broader concept, within which mental health is situated. Thriving is a state or process that encompasses well-being with a trajectory that goes beyond adequacy and competence.

**Problem behaviours** is not used, in reporting data in this document, as a clinical term as defined in the *Diagnostic and Statistical Manual* (American Psychiatric Association, 2013). Instead it refers to what could be described as parents’ and teachers’
understanding of the term and reflects what parents, guardians, and classroom teachers considered to be problem behaviours.

**Significance of the Research**

These two studies respond to limitations of the current research in the field of mental health of students in several important ways. Although conventional wisdom suggests that students who have reading difficulties often exhibit mental health concerns and vice versa, there is limited documentation that directly addresses these relationships. This work is intended to further our understanding of the extent to which and the ways in which mental health and reading are interrelated. We have much relevant research and know a great deal about how to teach reading; gaining insights into what this may mean for student mental health has important implications. Because the reading intervention selected for this study has been judged effective in improving reading for over 90% of the students who have participated (personal communication from program director, July 2008), it enabled me to develop a rich, qualitative account of the relationship between learning to read (specifically, improving from being a struggling reader) and mental health. The findings of this multi-perspective research are robust in breadth and depth through the inclusion of the perspectives of parents as well as the perspectives of classroom teachers, reading instructors, students, and the researcher. Intervening in an area where we know how to improve performance, such as reading, may have effects that extend beyond academic benefits and influence student mental health more broadly.

**Overview of Methodology: Study 1**

Because children spend most of their time either at home or at school, parents and the teachers who teach them are invaluable observers and interpreters of what transpires
when reading improves for the struggling reader. Using focus group methodology and individual interviews, a detailed descriptive account was developed of the experiences and perspectives of three participant groups: the parents of nine students who had completed the intervention; the classroom teachers of seven of these students; and the two full-time, experienced reading instructors who primarily instructed in the intervention. Two parent focus group interviews ($n = 6$) with three participants in each, and one with classroom teachers ($n = 3$) were conducted. Because of scheduling difficulties and participant preference, three additional individual interviews were conducted with parents and four individual interviews were conducted with teachers (see Table 1). The questions focused on: (a) the students’ reading, attitude, and emotional and behavioural characteristics prior to the beginning of the intervention; (b) the kinds of changes that occurred and the order in which they occurred during the intervention with questions about reading, attitude, emotional and behavioural characteristics, and other changes the parents and teachers observed, and (c) the students’ reading, attitude, emotional and behavioural characteristics, and other changes following the intervention. Individual interviews were also conducted with the two instructors who provided the reading intervention. Interview questions for the reading instructors asked about their experiences and observations of instructing struggling readers over the years at The Reading Room. Using a grounded theory methodological approach, standard qualitative analyses were used to identify emergent themes in the focus group and individual interview transcripts (Patton, 2002). Data collected from each of the three participant groups were read and analyzed separately using methods of constant comparison and cross-analyzed subsequently. Data from the parents and guardians, combined with the
Table 1

Study 1 Methodology

<table>
<thead>
<tr>
<th>Participant Group</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents/guardians (9)</td>
<td>2 focus groups ($n = 6$)</td>
</tr>
<tr>
<td></td>
<td>Individual Interviews ($n = 3$)</td>
</tr>
<tr>
<td>Classroom Teachers (7)</td>
<td>1 focus group ($n = 3$)</td>
</tr>
<tr>
<td></td>
<td>Individual interviews ($n = 4$)</td>
</tr>
<tr>
<td>Reading Instructors (2)</td>
<td>Individual interviews ($n = 2$)</td>
</tr>
</tbody>
</table>

data from the classroom teachers were used to generate a model that represented the participants’ perspectives of what changes evolved in student mental health as their reading improved. The data from the two reading instructors were analyzed last which provided a more general and longer term perspective on the changes they had observed in student mental health as many students became more able readers. The broader perspectives of the reading instructors augmented the findings from the parents and guardians and classroom teachers and were synthesized with the other perspectives in the creation and refinement of the model.

Overview of Methodology: Study 2

Study 2 describes the extent to which and the ways in which changes in reading and mental health were intertwined for three students who experienced difficulties in reading prior to enrolling in the intensive reading intervention. This second study was designed to refine and validate the model generated in the first study. Three multiple-perspective, ethnographic case studies were each conducted over a number of months to develop rich accounts that include the perspectives of three students from Grades 2 to 4, their parents, their classroom teachers at the time of the intervention, the reading instructors, and the researcher (see Table 2). A third reading instructor who worked part-time at The Reading
Table 2

*Study 2 Methodology*

<table>
<thead>
<tr>
<th>Participant Group</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students (3)</td>
<td>Reading achievement measures (pre/post)—administered by the reading instructors</td>
</tr>
<tr>
<td></td>
<td>Informal observations/discussions (throughout)</td>
</tr>
<tr>
<td></td>
<td>Formal interview (post)—administered by the researcher</td>
</tr>
<tr>
<td>Parents (2)/guardians (1)</td>
<td>Formal interview (post)—administered by the researcher</td>
</tr>
<tr>
<td>Classroom teachers (5)</td>
<td>Formal interview (post)—administered by the researcher</td>
</tr>
<tr>
<td>Reading instructors (3)</td>
<td>Informal observations/discussions (throughout)</td>
</tr>
<tr>
<td></td>
<td>Formal interview (post)—administered by the researcher</td>
</tr>
<tr>
<td>Researcher (1)</td>
<td>Ethnographic observations (throughout; each student was observed for approximately 25, 36, and 46 hours for a total number of 107 observation hours)</td>
</tr>
</tbody>
</table>

Room participated in this study, as she helped with the instruction of one of the students in the case studies.

This qualitative, ethnographic study enabled a detailed descriptive account of the experience of each of the participants as they progressed through the intervention including any changes in their emotional and behavioural characteristics, attention, reading ability, reading attitude, and reading self-efficacy. Throughout the study, I gauged progress by observing what was being taught (word level difficulty and passage difficulty), the rate at which students advanced (reading progressively longer words and more difficult passages), time on task, and any changes in reading behaviour (increased willingness to read and engagement in reading). Changes in emotional, social, cooperative, and interactive behaviours were also recorded through daily observations and through conversations, by asking the students and the reading instructors about their views of what had been observed. A summative, or post-intervention interview, was held.
with all the participants, for a total of 32 minutes with the students, 109 minutes with the parents/guardian, 202 minutes with the classroom teachers, and 236 minutes with the reading instructors.

**Overview of Thesis**

This dissertation uses a manuscript format and is organized into five chapters. The present chapter, Chapter 1, provides an introduction to the overarching research. In this chapter the purpose and significance of the research are highlighted. The rationale and a brief overview of the methodologies of the two embedded studies are provided. Chapter 2 reviews the literature regarding the role of mental health in schools today as well as what is known about the nature of the relationship between academic achievement, reading in particular, and the mental health of students. It also reviews the literature related to struggling readers; how they are impacted by their difficulties and how to intervene. The next chapter, Chapter 3, which is intended as a stand-alone manuscript, describes Study 1 in detail, and is the first chapter in which I report data. Chapter 4 is the second stand-alone manuscript, and it reports on Study 2. The culminating chapter, Chapter 5, brings the two studies together in a coherent synopsis discussing the outcomes of both and identifying convergent and divergent themes. This final chapter concludes the research by relating the findings to the initial objectives and the literature, and proposes recommendations for practice and for future research.
Chapter 2

Literature Review

Introduction

The World Health Organization (WHO) has long considered mental health an integral and essential component of health and more than simply the absence of mental illness. The WHO defines mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community” (World Health Organization, 2001, p. 1). The Canadian Mental Health Association (CMHA) has adopted this definition and in 2006 the Public Health Agency of Canada (PHAC) described mental health similarly as “the capacity of each and all of us to feel, think, and act in ways that enhance our ability to enjoy life and deal with the challenges we face” (Public Health Agency of Canada, 2006, p. 2).

Even though, for more than 20 years, the WHO has recognized the pivotal role schools can play in the mental health and well-being of students (Hendren, Weisen, & Orley, 1994), it is only recently that government agencies and policy makers have issued directives addressing school mental health. The impetus behind the current trend arises from two predominant factors: the recognition that many children and youth are affected by poor mental health and that schools are well positioned to affect positive changes in student physical and mental health. Studies have shown that between 15% and 25% of Canadians under the age of 19 years have experienced at least one serious mental health concern (Butler & Pang, 2014). Furthermore, 70% of mental health problems experienced
by adults begin during childhood or adolescence (Government of Canada, 2006), and perhaps more alarming is the finding that 50% of these emerge before the age of 14 years (Kessler, Berglund, Demler, Jin, & Walters, 2005). Most of these children and youth do not receive the help they need, largely because of the stigma still associated with mental illness (Manion, Short, & Ferguson, 2013). Intervening early is paramount to promoting life-long mental health and to preventing potential negative outcomes such as early school-leaving, social isolation, and underemployment.

That schools are increasingly regarded as a critical setting for promoting the psychological well-being of children and youth is a reasonable assertion when considering that most children and youth spend at least six hours a day and more than 180 days a year in school. By both promoting mental health broadly for all students and meeting the learning and emotional needs of individual students, psychological well-being can be enhanced (Morrison & Peterson, 2013). Both school administrators (Confederation of Principals, 2009) and teachers (Froese-Germain & Riel, 2012) recognize the need for school-based involvement and intervention to address the mental health of students. A national online survey conducted in 2012 by the Canadian Teachers’ Federation (CTF) in collaboration with the Mental Health Commission of Canada gathered data from 3,900 teachers from across the country. Key findings of the survey indicated that teachers agreed that they were a part of the solution but felt they needed more professional development in the areas of mental health in general, and specifically in recognizing and understanding student mental health issues, as well as strategies they could use to help their students (Froese-Germain & Riel, 2012).
A mental health framework was used to guide this research. Some studies have investigated how mental health affects academic achievement (e.g., Murphy et al., 2015), while others have shown that poor academic achievement negatively affects mental health (e.g., Morgan et al., 2012). Importantly, minimal research was found that investigates how intervening for academic deficits may affect mental health. By investigating the dynamic interplay between academic achievement, specifically in reading, and mental health, this research aims to enhance our understanding of how learning to read is related to the mental health of struggling readers. The first of two studies was designed to develop a model that helps to unpack relationships that may exist between transitioning from a struggling or non-reader to a reader and mental health. This model was validated and refined in a subsequent ethnographic case study that followed struggling readers who were reported to have mental health issues, as they became more able readers through an intensive reading intervention. We know a great deal about how to teach reading and how to intervene with struggling readers; the current dissertation sets out to learn how, by enhancing students’ ability to read, it may be possible to achieve concomitant gains in mental health.

The literature reviewed in this chapter makes a case for the two studies. It first reviews the current thrust in education that acknowledges the key role schools play in affecting the mental health of students. It also reviews the literature related to mental health and learning in general, as well as what is known about the relationship between struggling to read and mental health specifically. Current pedagogy related to the teaching of reading and intervening when students struggle is also presented. Finally it
The Role of Mental Health in Education

In recent years, the mental health of students has been increasingly recognized as playing a critical role in their overall well-being and success (Morrison & Peterson, 2013). This holistic approach views mental health as an essential dimension influencing student success, not only during their years at school, but also later in life. As children and youth spend approximately half of their waking hours at school in a typical week during a school year, there is greater awareness and agreement that schools must play an active role in promoting student well-being that goes beyond academics and includes mental and physical health. In contrast to physical health education, which has a long history in the school system, mental health programs have only been developed in the past decade.

A framework from Rowling and Weist (2004) has been widely used internationally to represent the continuum of school-based mental health initiatives (Figure 1). The initial tier provides the base for school mental health by providing a school-wide climate in which positive mental health and overall well-being is promoted. The second tier is designed to promote mental health and reduce mental health problems. Although this tier is also school-wide, it is more action oriented through a curriculum that promotes and destigmatizes mental health while improving mental health literacy. The third tier is more targeted and is designed to identify and provide additional support, still in the school setting, for students dealing with specific social, emotional, learning, or mental health problems and mental illness. The fourth and final tier is for the few
students who need more intensive assessment and intervention for mental health problems from external health providers and agencies (Rowling & Weist, 2004).

The evolution of school-based mental health initiatives. At about the same time Health Promoting Schools (HPS) were emerging in Britain and Europe, the Comprehensive School Health (CSH) framework was being developed in Canada, both of which were prompted by the 1986 Ottawa Charter for Health Promotion (World Health Organization, 1986). The Comprehensive School Health framework is a multifaceted, intentional, and integrated approach to education that is widely recognized as being the approach that best supports student achievement. According to the findings of the Pan-Canadian Joint Consortium for School Health (JCSH), schools that adopt the CSH framework recognize that physically and emotionally healthy students are more likely to reach their academic potential. Furthermore, schools that adopt the CSH framework
recognize that they have the capacity to contribute positively to students’ mental health (Morrison & Peterson, 2013).

An early review of the literature on school-based mental health interventions between 1985 and 1999 found that of the 37 strategies described in the 47 studies that met their inclusion criteria, only 35% \((n = 13)\) were found to be effective (Rones & Hoagwood, 2000). In two more recent, sequential reviews (Morrison & Kirby, 2010; Morrison & Peterson, 2013) the authors identified a trend over the 13 year period (2000-2013) covered by the two reviews that indicated an important shift away from problem-solving, deficit-oriented approaches towards a positive mental health perspective that focuses on enhancing competence and fostering positive mental health as well as aspects of socio-emotional learning (Morrison & Peterson, 2013).

School-based mental health initiatives have been conceptualized in many different ways but predominantly fall under one of three approaches: (a) mental health promotion, (b) prevention programs, and (c) intervention programs. Promotion and prevention programs would be represented by Tiers 1 and 2 in the CSH framework (Figure 1), while intervention programs would be represented by either Tier 3 or 4 depending on whether or not external (outside school) resources are required. School-based mental health promotion programs foster positive mental health of all students and are designed to promote social competence and generate positive self-concept through skill training, role playing, positive feedback, modelling, and self-reflection techniques. In their “snapshot” of school mental health programs in Canada, Manion and colleagues (2012) described the outcomes of these programs as encouraging and as generally effective in promoting mental health while also enhancing students’ ability to cope by addressing emotional and
behavioural challenges. They also suggested that these programs are most effective when school-wide and implemented over several years.

School-based mental health prevention programs are aimed specifically at reducing or preventing distresses. These programs are designed to educate, inform, and reduce stigma around poor mental health and are implemented school-wide. Manion et al. (2012) found school-based behavioural and cognitive-behavioural programs were effective in reducing symptoms of depressed mood, anxiety, and problem behaviours such as aggression and conduct disorders. For mood problems, the best approaches are skill-based and targeted, specifically aimed at developing competencies and protective factors. For externalizing behaviours such as aggression, the best approaches focus on social skill development, conflict resolution, and anger and stress management. These findings were consistent with those of a meta-analysis of 213 school-based social and emotional learning (SEL) programs involving 270,034 students from Kindergarten to Grade 12. The results demonstrated a positive impact of SEL programs on the social and emotional skills, attitudes, behaviour, and academic performance of students (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Programs aimed at suicide prevention and substance abuse had mixed and inconclusive findings. Programs that are school-wide, involve families, and extend beyond one year have been found to be most effective.

Intervention school-based mental health programs are targeted interventions for those students who need additional and specific support. In treating depressed mood or anxiety problems, school-based behavioural and cognitive-behavioural interventions were found to be more effective than general counselling. These programs are most successful
when delivered in small groups or individually, are skill-based, and focus on problem solving, coping, and cognitive restructuring (Manion et al., 2012).

**Mental health literacy in schools.** Jorm and colleagues (1997) define mental health literacy as the “knowledge and beliefs about mental disorders which aid their recognition, management, or prevention” (p.182). One of the greatest obstacles to effective school-based mental health programs cited in the literature is inadequate mental health literacy (Santor, Short, & Ferguson, 2009). A national online survey of Canadian teachers indicated that teachers wanted to help but felt poorly equipped to do so. Short, Ferguson, and Santor (2009) reported that although the majority of teachers interviewed were deeply concerned about student mental health, they felt ill-prepared to identify mental health challenges and support students due to their knowledge limitations. Moreover, according to a recent study, young people are disinclined to approach teachers with their concerns because they feel teachers, even though they may be willing, are inadequately prepared to address their mental health and substance abuse problems (Bowers, Manion, Papadopoulos, & Gauvreau, 2013).

**Status of school-based mental health initiatives.** Despite the shift towards promoting positive mental health and the awareness of the pivotal role schools can and should play in the mental health of students, the research suggests we are currently falling short at affecting positive change in our schools. Although several programs have been implemented in both elementary and secondary schools, they are still relatively new and poorly documented. According to Ferguson and Power (2014), it is crucial to their success that schools select evidence-based programs, implement them with fidelity, and monitor and measure the process and outcomes. A number of challenges to the
implementation, operation, and sustainability of programs have been identified. The most frequently cited barriers to successful implementation of school-based mental health programs are: stigma (Bowers et al., 2013; Manion et al., 2012; Santor et al., 2009); insufficient resources (funding, services, and staff) to meet the demands (Manion et al., 2012; Santor et al., 2009); and a lack of professional development to enhance teachers’ understanding, competence, and confidence in dealing with student mental health (Lendrum, Humphrey, & Wigelsworth, 2013; Santor et al., 2009). Additional barriers include: limited mental health literacy in schools (Bowers et al., 2013); lack of and inequities in mental health services available at school boards (Santor et al., 2009); and lack of parental engagement (Santor et al., 2009).

**School-based mental health in the Canadian context.** A report prepared by the School-based Mental Health and Substance Abuse (SBMHSA) Consortium, with support from the Mental Health Commission of Canada, reported on a three part study that included a synthesis of the research (national and international) up to 2010, a scan of existing programs and services in Canada, and a larger national survey of schools and school boards about their needs and practices (Mental Health Commission of Canada, School-Based Mental Health and Substance Abuse Consortium, 2013). The scan was designed to gather descriptive information about school mental health and substance use programs, models, and initiatives currently implemented in Canada. The survey was distributed widely across Canada to garner an understanding of program availability, effectiveness, and challenges to implementation, as well as participants’ understanding of the mental health needs of their student population.
For the scan, 147 individual interviews were conducted with a professional from nominated programs; all provinces and territories were represented with most respondents coming from Ontario. The target areas of these programs were either mental health (51%), substance abuse (17%), or both (32%). Some key descriptive findings of the scan were as follows:

- More programs served students in grades 9-12 than students in the earlier grades
- Programs tended to focus on: risk behaviour prevention (50%), prosocial skill development (41%), or student mental health literacy (37%)
- Fewer than half of the programs were subjected to evaluations, and there was not a strong evidence base for most programs.

The national survey was designed to provide more detailed and evaluative data about the state of school mental health and substance abuse service delivery in Canadian schools (Mental Health Commission of Canada, School-Based Mental Health and Substance Abuse Consortium, 2013). Participants, from 177 school districts and 643 schools across Canada completed the survey. School principals were asked to forward the link to the individual at the school who they considered was the most knowledgeable about school mental health needs and services. Although all provinces and territories were represented, most respondents were from British Columbia, Alberta, Manitoba, and Ontario. Respondents came from urban and rural schools, most were from elementary schools (70%), and almost half the respondents indicated that they had more than 10 years’ experience in school-based mental health. Some of the key findings of the survey are as follows:
• Approximately 85% of board level respondents indicated that they were concerned, or very concerned about student mental health or substance abuse or both and 65% of school level respondents expressed the same level of concern

• Over 80% of all respondents indicated that there were unmet student mental health or substance use needs in their board or school

• At the school level, respondents indicated attention, learning, anxiety, depression, substance use, and bullying as the most common concerns

• 90% of respondents indicated a team approach to service delivery (mental health professionals and educators), however there were also reports of unclear pathways and protocols to services and insufficient professional development

• One of the most often identified challenges to implementation was the need for more professional development for teachers.

To conclude, the scan indicated that school-based mental health programs exist across Canada and are predominantly developed in response to an identified need. The survey, broadly disseminated throughout Canada, identified concerns of schools and school boards related to the mental health of their students. Both the scan and the survey indicated that while some programs show promise, there is a general paucity of effective evidence-based programs. Furthermore, there is a widespread call for professional development, collaboration, and implementation support.

In summary, current school-based mental health programs in Canada tend to be reactive and appear inconsistently across the country, rather than proactive and widespread. Most respondents reported that school boards should be placing the emphasis on intervention with high-risk students instead of promotion and prevention more
broadly. The full continuum of care was not being implemented and there was a call for more professional development. With the endorsement of the Comprehensive School Health framework and the recognition of the critical link between mental health and achievement, school-based mental health initiatives should actively promote mental health, strive to prevent mental health concerns from developing, and intervene when students struggle.

**The Bi-directional Relationship between Mental Health and General Academic Achievement**

Although the nature of the relationship is still unclear, studies indicate that poor mental health is related to underachievement (e.g., Murphy et al., 2015; Sijtsema, Verboom, Penninx, Verhulst, & Ormel, 2014) and in some cases school dropout (e.g., Quiroga, Janosz, Bisset, & Morin, 2013). A large international survey of 1,200 principals from 110 schools in 27 countries revealed that about 98% of participants believed that mental health was *fairly* or *very* important to student achievement. Furthermore, these principals estimated that one in five of their students had a serious mental health concern (International Association of Child and Adolescent Mental Health and Schools [Intercamhs] & International Confederation of Principals, 2009). Similarly, a scan of Ontario school boards revealed that 96% of the participants were either *very* or *extremely* concerned about student mental health, and 100% of participants felt that mental health was *very* or *extremely* important to academic achievement (Short et al., 2009).

Beyond these perceptions, although limited, some studies have found an association between good mental health and positive academic achievement. A longitudinal study by Murphy and colleagues (2015) of 37,397 elementary school
children in Chile examined: (a) whether or not student mental health in Grade 1 predicted academic achievement in Grade 3, and (b) if a remission of mental health concerns resulted in improved academic outcomes. Data were collected from a 15 year national school-based mental health program, *Habilidades para la Vida* [Skills for Life (SFL)] in 2009 and 2011. Multiple linear regression models were used to examine whether first grade mental health measures predicted first and third grade academic performance. A second set of analyses with a smaller sample of students (*n* = 18,969) was conducted to determine whether the evolution (positive or negative) of psychosocial risk from first to third grade was associated with academic functioning over the same time period. The results indicated that mental health significantly predicted academic performance in Grade 3. Furthermore, the students, whose mental health improved between Grades 1 and 3, made larger academic gains than those whose mental health did not improve or worsened. The authors concluded that even though academic achievement in Grade 1 was the greatest predictor of academic achievement in Grade 3, mental health in Grade 1 was a strong predictor of academic achievement in Grade 3. Moreover, they found that mental health, as assessed at the beginning of the first grade, independently predicted the percent of school days attended in Grade 1 and Grade 3.

Importantly, except for research that looks specifically at the impact struggling to read has on mental health (e.g., Morgan et al., 2012) and behaviour (e.g., Bennett, Brown, Boyle, Racine, & Offord, 2003), no research was found that documented the relationship in reverse—how achievement may affect mental health. Other studies have described the mental health of students with learning disabilities (e.g., Dahle et al., 2011) but, research showing how achievement affects mental health is sparse.
In a Canadian context, a large scale, nationally representative study that examined the mental health of 670 people (aged 15-44 years) with learning disabilities showed that they were more than twice as likely to report high levels of distress, depression, anxiety disorders, and suicidal thoughts when compared to their typically achieving peers (Wilson et al., 2009). Taken together, these studies indicate a complex and bi-directional relationship between mental health and general academic achievement. Because of the implications for the mental health of students, as well as the academic advantages, it is clear that early intervention is essential.

**Mental Health and its Relationship to Reading**

Until recently there has been very little research investigating the relationship between mental health and reading difficulties. Not only has there been a paradigm shift in recent years away from investigating problem behaviours and towards the understanding and promotion of mental health, but it is now recognized that problem behaviours in the classroom are often manifestations of underlying mental health problems. This suggests that earlier literature regarding behaviour problems and reading difficulties is analogous to the more recent literature regarding the relationship between mental health and reading difficulties; two differing approaches that address the same issue. Reading difficulties have been shown to be associated with both problem behaviours and the mental health of students. For example, Morgan et al. (2009) found that children with reading problems in Grade 1 were significantly more likely to display problem behaviours (poor task engagement, poor self-control, and aggression) in Grade 3. In a similar, but more recent study the same authors found that poor readers in Grade 3 were twice as likely to consider themselves as angry, distractible, sad, lonely, and
unpopular in Grade 5; which was in contrast to those not considered to be poor readers in Grade 3 (Morgan et al., 2012).

There is now documented evidence that an adverse relationship exists between struggling to read and mental health. Students with reading difficulties have been shown to have a greater preponderance of mental health challenges such as anxiety (e.g., Carroll, Maughan, Goodman, & Melzer, 2005), depression (e.g., Carroll et al., 2005), and suicidal ideation (e.g., Dahle et al., 2011) than do their typically achieving peers. Carroll and colleagues (2005) showed that students, both boys and girls, with reading difficulties frequently displayed comorbid anxiety. Data from the large-scale, nationally representative British Child and Adolescent Mental Health Survey (in Meltzer, Gatward, Goodman, & Ford, 2000) assessed the rates of psychiatric disorders and associated risks of school-aged children and youth (aged 9 to 15 years). Specifically, the results of their study indicated that reading difficulties were closely related to both separation anxiety and generalized anxiety disorders. As discussed by the authors, separation anxiety has been associated with school phobia and the difficulties experienced by struggling readers may contribute to related anxieties about going to school. Furthermore, the authors found that the link between anxiety and literacy difficulties was not accounted for by attention levels; arguing that it was more likely that literacy difficulties were a risk factor for increased anxiety. Moreover, they suggested that these outcomes were likely to be a particular concern for children and adolescents who are naturally anxious.

These findings extend and complement those presented by Willcutt and Pennington (2000) who found both internalizing difficulties and externalizing behaviours were related to reading disabilities. This study investigated the association between
reading disabilities and internalizing and externalizing problems in a large sample of eight to eighteen year old twins with \( n = 209 \) and without \( n = 192 \) a reading disability. Data were collected as part of the Colorado Learning Disabilities Research Centre twin project, a long-term study of the etiology of learning disabilities (DeFries et al., 1997). In contrast to externalizing behaviours, internalizing symptoms of anxiety and depression remained significant after controlling for ADHD. This suggests that internalizing behaviours are not mediated by ADHD and may be related specifically to reading difficulties. The same study also found a significant relationship between reading disabilities and somatic complaints as indicated by data collected through the Child Behavior Checklist (CBCL) (Achenbach, 1991).

Reading difficulties have also been shown to be associated with depression or depressed mood (Carroll et al., 2005; Willcutt & Pennington, 2000) and suicidal ideation (Dahle et al., 2011; Daniel et al., 2006; Wilson et al., 2009). Data from the longitudinal Pittsburgh Youth Study (PYS) by Maughan and colleagues (2003) found robust links between severe, persistent reading problems and increased risk of depressed mood for boys aged 7 to 10 years. Depressed mood was assessed using the short version of the Mood and Feelings Questionnaire (SMFQ) (Angold et al., 1995), a self-completion scale for children six years and older. Interestingly, they found that depressed mood decreased with age so that: 13.4\% of the younger age group (mean age 7.4 years) were rated as depressed; while 7.1\% of the middle group (mean age 10.7 years) was rated as depressed; and only 2.5\% of the oldest group (mean age 13.8 years) was rated as depressed. For the younger group, the rate of depressed mood for boys with reading problems was substantially different (three times greater) than that of their non-reading disabled peers.
Another study by Arnold et al. (2005) found that the youth (aged 15 years) classified as “poor readers” in their study self-reported higher rates of depression and anxiety than did those with typical reading ability.

Although most struggling readers are not clinically depressed, children and adolescents with reading problems are often at-risk of depressed mood (Alexander-Passe, 2006) and, in some cases, of suicidal thoughts or attempts (Daniel et al., 2006). In a study comparing typically achieving readers and poor readers ($n = 188$), Daniel et al. (2006) found that youth with poor reading ability were more likely to experience suicidal ideation or attempts, and were more likely to drop out of school than were their typically achieving peers. Similarly, a study of 70 students with severe dyslexia, matched with non-disabled peers, showed that while nine out of the 70 participants with dyslexia experienced suicidal ideation (with one attempting suicide), none were reported in the control group (Dahle et al., 2011).

**Behavioural Challenges Associated with Struggling to Learn to Read**

Until recently, research has tended to focus on the behavioural challenges students experience meeting social expectations, and the challenges they pose for their teachers, in the classroom. In the past few years, the focus has shifted to student well-being and the mental health challenges experienced by students. In the earlier approach, behaviour problems were viewed as occurring along a continuum, varying in severity from lower intensity but higher frequency behaviours such as classroom disruptions and inattention (problem behaviours), to higher intensity but lower frequency behaviours such as aggression (often referred to as emotional and behavioural disorders or EBD). Most classroom disruptions are caused by high incidence, but low impact behaviours such as
talking-out, not paying attention, being distracted, not completing tasks, and arriving late to class (Lopes, 2007). The more extreme behaviours of EBD include a number of externalizing characteristics (e.g., aggression, hyperactivity, and non-compliance) and internalizing characteristics (e.g., anxiety, depression, and stress related disorders) that inhibit a child’s ability to build and maintain successful social relationships with peers, teachers and adults. Research showed that children with EBD were often characterized by poor academic performance that could not be explained by intellectual, sensory, or health impairments (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). In the classroom setting behavioural exceptionalities were generally defined as those behaviours that differed significantly and chronically from socially accepted norms, interfering with the learning of the individual and of the class as a whole (Hutchinson, 2014).

Although existing evidence has supported a relationship between poor academic achievement and problem behaviour (Levy & Chard, 2001; Lopes, 2007; Nelson, Benner, Lane, & Smith, 2004; Pierce, Reid, & Epstein, 2004; Reid et al., 2004; Ruhl & Berlinghoff, 1992; Strong, Wehby, Falk, & Lane, 2004), the directionality of this relationship has always been in question. Some studies suggest a reciprocal relationship (Hinshaw, 1992; Trzesniewski et al., 2006) while others support either reading (e.g., Morgan et al., 2009) or behaviour (e.g., Katsiyannis et al., 2008) as the cause of difficulties in the other. Regardless of directionality, several studies have shown that students with EBD often have large academic deficits related to reading, mathematics, and written language (Nelson et al., 2004; Trout et al., 2003). A meta-analysis conducted by Reid and colleagues (2004) reported that students identified with EBD performed significantly below their peers in all academic areas with the greatest deficits in reading,
mathematics, and spelling. Carroll et al. (2005) found that literacy difficulties and reading problems were closely related to Conduct Disorder (CD), and Arnold et al. (2005) showed that more parents, of children who struggled to read, reported higher rates of delinquent behaviours in their children than did parents of able readers.

Since the early 1990s (Hinshaw, 1992) research has shown that behavioural challenges and then, that mental health concerns tend to coexist with struggling to read. In the light of this evidence, intervening when students have difficulty reading should be paramount for both their academic success and for their mental health. According to Rowling and Weist (2004) and their model of the School Health Framework, the third tier, within which 20-30% of students fall, is where school-based targeted interventions should be designed and implemented to provide the additional support required by students struggling with specific learning needs. This recognition of the detrimental effect of a learning difficulty on mental health reinforces the need for timely intervention when students are struggling to read.

**How to Intervene**

Being able to read becomes crucial to success in school at a very early age. It is generally believed that reading deficits evolve either as a result of dysfunctional cognitive processes necessary for reading or because earlier reading instruction has either been inadequate or ineffective (Gibb & Wilder, 2002). Although research has focused almost exclusively on instructing reading in the early primary grades (Grades K–3), more recent studies have shown that interventions in middle and secondary school can effectively reduce reading deficits and improve reading. However, as argued by Serry and Oberklaid
(2015), intervention should ideally occur early as reading difficulties are easier to remEDIATE in the earlier years before they become entrenched.

Teaching reading. The teaching of reading has been one of the most discussed and controversial areas of research in the field of education. A report by the National Reading Panel (NRP) (National Institute of Child Health and Human Development, 2000) on teaching reading analyzed more than 100,000 studies on reading instruction. Articles were included if they had been published in English, in peer-reviewed journals, focused on students pre-school through Grade 12, and were experimental or quasi-experimental with either a control group or multiple-baseline design. Following this comprehensive report and other more recent reviews (e.g., Watson, Gable, Gear, & Hughes, 2012), there is now considerable agreement on the need for systematic and explicit instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension strategy instruction. For students to become proficient readers these skills need to be developed and mastered.

Phonemic awareness. Phonemic awareness (PA) is the ability to hear, discern, and manipulate the individual sounds (phonemes) in a spoken word. Phonemes are the smallest sound units in spoken language, and differ from the letters that represent them. Phonemic awareness is evaluated and instructed by specific tasks in which phonemes are manipulated, including: phoneme isolation, identification, categorization, blending, segmentation, and deletion. Phonemic awareness is essential to reading and provides the foundation on which alphabetical skills can be constructed. Phonemic awareness and letter knowledge are the two best predictors of how well students will learn to read (National Institute of Child Health and Human Development, 2000).
Since the report by the NRP there has been a movement away from pure phonemic awareness instruction and towards broader phonological awareness instruction. Phonological awareness also refers to the ability to recognize, discriminate, and manipulate the sounds in spoken language. Beyond phonemic awareness however, phonological awareness refers to differing sound units including the smallest sound unit (phonemes) and sequentially larger sound units that include onsets, rimes, and syllables. Onsets are the initial consonant or consonant cluster at the beginning of most syllables, and the rime is the remaining vowel and consonant combination. The developmental sequence of these phonological units begins initially with the recognition of syllables, then the smaller onset and rime units, and finally the smallest unit, the phoneme (Anthony & Francis, 2005). As with phonemic awareness, studies have indicated that explicit and systematic instruction in phonological awareness is an essential component in reading instruction (Pullen & Lane, 2014).

**Phonics.** The alphabetic principle develops as students discover the correspondence between phonemes and graphemes (individual letters and letter combinations that represent individual sounds in spoken language) (Scarborough & Brady, 2002). Phonics is a method of reading instruction that focuses on letter/sound relationships, and is essential for children to determine the pronunciation of the written word, and therefore its identification. Systematic phonics instruction significantly benefits students in Kindergarten to Grade 6, and those having difficulty learning to read (National Institute of Child Health and Human Development, 2000). Interventions that specifically embed grapho-phonemic analyses have been shown to increase the retention
of written words in memory, facilitating both word reading and spelling (Ehri, Satlow, & Gaskins, 2009).

**Fluency.** Reading fluency is the rapid, accurate, and expressive reading (prosody) of text. Fluency develops as the need for decoding decreases and as more sight words are accumulated. The automatic recognition of words helps the student rapidly progress through the text so that the previously read material is remembered and comprehension is improved. In addition, fluent reading means text is read with less effort, potentially increasing the student’s motivation to read (Ontario Ministry of Education, 2005).

Reading difficulties often manifest in poor fluency which in turn contributes to students struggling to read (Rasinski, Homan, Biggs, 2009). The NRP (National Institute of Child Health and Human Development, 2000) found that guided, repeated oral reading (by parents, teachers, or peers) had a significant and positive impact on word recognition, oral reading fluency, and comprehension across grade levels. Furthermore, Rasinski and colleagues (2009) suggested that fluency instruction should go beyond mechanical practice and should include authentic tasks that employ texts that are meant to be practiced and performed.

**Vocabulary instruction.** Vocabulary (oral and print) is crucial to text comprehension; the larger the vocabulary of the reader, the fewer the words that need conscious decoding, and the easier it is to make sense of the text (National Institute of Child Health and Human Development, 2000). In their review of 50 studies, the NRP found that vocabulary instruction led to gains in comprehension if the methods were appropriate for the age and ability of the reader. Vocabulary should be taught both directly and indirectly through multiple exposures and instructional methods, rich
contexts, incidental learning, and computer technology. Furthermore, explicit vocabulary instruction should span both the elementary and secondary grades, and to enhance reader comprehension, should be subject-specific (Taylor, Mraz, Nichols, Rickelman, & Wood, 2009).

**Comprehension strategies.** The ultimate purpose of reading is to gather meaning from text whether for enjoyment or for learning. In its review of 205 studies, the NRP (2000) identified seven evidence-based comprehension strategies, of which, three are used in the intervention in the current research: (a) comprehension monitoring, (b) question answering with immediate feedback, and (c) summarization. Also used, and especially beneficial for students with reading difficulties, are the use of mental imagery, and the activation of relevant prior knowledge (Ontario Ministry of Education, 2005). Watson et al. (2012) further emphasized the need for direct instruction related to background knowledge. As with other elements, direct and explicit strategy instruction is necessary (Coyne et al., 2009) and a combination of these reading comprehension strategies is considered to be most effective (National Institute of Child Health and Human Development, 2000; Ontario Ministry of Education, 2005).

**Morphology instruction.** In recent years morphological awareness and morphology instruction have been gaining momentum in the area of reading research and instruction. Emerging evidence suggests that morphology instruction should be included in a comprehensive reading program (Reed, 2008). Similar to phonemes in the spoken word, morphemes are the smallest units of meaning in the written word. They include base or root words and affixes (prefixes and suffixes) (Carlisle, 2003). Morphemic interventions have been shown to facilitate reading and reading-related outcomes for
students in Grades K to 12 (Reed, 2008). Students benefit most from morphology instruction when it: includes root word instruction (not only affix instruction), is integrated with other reading skills, is embedded in content area lessons, and is aligned with the student’s reading developmental age (Reed, 2008).

The intervention represented in the present research used evidence-based practices. The five instructional elements, as described by the NRP as essential: phonemic awareness, phonics, vocabulary, fluency, and comprehension, plus morphological instruction were incorporated in the program of instruction experienced by the students in the current studies. Furthermore, each intervention is individually tailored to meet the areas of greatest need of each participant.

**Teaching reading to students with emotional and behavioural problems.** Over many years of research that has focused on students with emotional and behavioural problems it was found that, like students currently identified with mental health challenges, they were at greater risk of negative outcomes in school and life than students with other disabilities (Levy & Chard, 2001). Although students with emotional and behavioural problems are often characterized by poor academic achievement (e.g., Strong et al., 2004) particularly in reading (de Lught, 2007; Trout et al., 2003), little is known about effectively intervening with this population. Typically the initial focus of intervention has been on remediating behaviour, often neglecting the academic needs of the student and possibly exacerbating existing academic deficits (Anderson, Kutash & Duchnowski, 2001). Furthermore, studies have shown that success in reading can positively impact problem behaviours (e.g., Lane et al., 2002).
Despite the strong relationship between achievement and behaviour, there remains a paucity of research on effective academic instruction for students with emotional and behavioural disorders; furthermore, existing research lacks a clear indication of directionality (Kostewicz & Rubina, 2008). Several authors have suggested that in the absence of such research, we should do, at a minimum, what the current research says about effective instruction (Landrum, Tankersley, & Kauffman, 2003; Levy & Chard, 2001). The evidence suggests, similar to all students, that effective instruction for students with EBD, and by extension those with mental health challenges, include: the five elements of effective reading instruction as described by the NRP (Kostewicz & Rubina, 2008), peer tutoring (Coleman & Vaughn, 2000), direct instruction (Landrum et al., 2003), and a three-tiered preventative approach (Lane & Menzies, 2010). Coleman and Vaughn (2000) also emphasized the importance of trust as a precursor to instruction for students with EBD as well as maintaining a high level of interest and engagement. A meta-analysis of the effects of reading instruction on the reading skills of students with EBD by Benner, Nelson, Ralston, and Mooney (2010) produced several key findings:

- Students with emotional and behavioural problems are responsive to reading interventions
- Reading skills are improved with targeted phonological awareness instruction, supplemental to regular classroom instruction
- Older struggling readers make the greatest gains when comprehensive reading strategies are used; including word reading skills, vocabulary development, and comprehension strategies
Research regarding effective reading instruction for students with emotional and behavioural problems remains limited.

The essential role of supportive learning environments. Supportive, nurturing learning environments enhance student learning by providing a safe and encouraging space that allows students to take risks. A caring climate of acceptance and support, often enhanced with humour (Gentry, Steenbergen-Hu, & Choi, 2011), helps to establish a platform for learning. Before students are willing to risk, a trusting relationship between teacher and student needs to be developed. Emerging research has shown that strong teacher-student relationships positively impact academic achievement, motivation, and attitude towards school (Klem & Connell, 2004) as well as school completion (Lee & Burkham, 2003). Furthermore, not only does the quality of the teacher-student relationship predict the concurrent functioning of the student, it also predicts subsequent development across multiple domains including academic performance, psychosocial functioning, and motivation and engagement in school (Sabol & Pianta, 2012).

In addition to effective instruction and a positive teacher-student relationship, a supportive learning environment is necessary in order to enhance student success—especially important when students have experienced sustained failure through the years. A teacher who deliberately fosters a relationship with a student will develop an understanding of that student both, in terms of their academic abilities and their socio-emotional characteristics. This combined knowledge allows the teacher to tailor her instruction to meet the multidimensional needs of the student. This match is crucial to student success. Once successes begin to outnumber failures in this supportive environment, the student’s self-efficacy is likely to improve. Students with low self-
efficacy particularly value the encouragement and compassion of a caring teacher (Komarraju, 2013). With improved self-efficacy, students are more willing to take risks and persist, resulting in enhanced learning opportunities.

Motivating students to read. That reading instruction is often not sufficient in helping students to read has been recognized by several authors (Edmonds et al., 2009; Morgan & Fuchs, 2007; Roberts, Torgeson, Boardman, & Scammaca, 2008). Reading is an effortful process, especially when it involves complex text (Roberts et al., 2008). Struggling readers have difficulty engaging in and enjoying reading, reducing their motivation to read (Morgan & Fuchs, 2007). In their study of what motivates students to read, Guthrie and Humenick (2004) found that effect sizes were highest when classroom practices included interesting texts, student choice, knowledge goals, and collaboration.

A motivationally oriented reading intervention, Concept-Oriented Reading Instruction (CORI), was designed to increase students’ reading comprehension and motivation for reading (Guthrie, McRae, & Klauda, 2007). The intervention includes five motivational constructs: (a) relevance (linking content to students’ experience and background knowledge), (b) choice (providing opportunities for autonomy), (c) success (providing meaningful tasks that students can perform proficiently), (d) collaboration (providing productive social interactions), and (e) thematic units (where units are structured in an organized and connected way). This and other motivational strategies can enhance word reading and comprehension skill development by increasing student engagement.

Reading attitude and reading. Affective factors such as reading attitude and self-efficacy influence students’ approaches to reading and consequently the development of
their reading skills and interest in reading (Henk & Melnick, 1995). Attitude is thought to play a pivotal role in the development and use of lifelong reading skills through its influence on students’ willingness to read and therefore on the amount of time spent engaged in reading (Kazelskis et al., 2004; Lazarus & Callahan, 2000; McKenna & Kear, 1990). Students who enjoy reading tend to read more, expanding their knowledge base and improving their comprehension skills (Mullis, Martin, Gonzalez, & Kennedy, 2003). Conversely, a poor attitude towards reading, even for accomplished readers, will mean other options, such as watching television, will usually be chosen over reading (McKenna, Kear, & Ellsworth, 1995). Furthermore, an index of Student’s Attitude Toward Reading (SATR) showed that in all 35 countries participating in the Progress in International Reading Literacy Study (PIRLS), students with the most positive attitudes toward reading also had the highest reading achievement (Mullis et al., 2003).

**Self-efficacy and reading.** Historically, terms such as self-concept, self-esteem, self-worth, and others have been used synonymously and interchangeably, making a synthesis of the research and definitive cross-study comparisons difficult. Despite the inconsistent use of terminology and wavering constructs, Burden (2008) found that when comparing students with dyslexia or other learning disabilities with typically achieving peers, there was no significant difference in their general self-concept, but there was a clear and significant difference in academic self-concept. In another study giving voice to 75 teenagers and young adults with dyslexia, Ingesson (2007) investigated how they experienced school in terms of well-being, educational achievement, peer relations, and belief in their future. Results showed that the first six grades were full of generalized distress and failure for most of the participants, while in later years problems were related
more specifically to reading and writing activities. Of the 75 participants, 40 percent had low academic self-esteem and described dyslexia as negatively affecting their self-esteem ‘quite a lot’ or ‘very much.’ Furthermore, a relationship was found to exist between self-esteem and the participants’ belief in their future; only 13 percent of the students to have completed upper secondary school, chose to continue to post-secondary education compared to the general population (43 percent). Similarly, a meta-analysis found that 89 percent of studies, representing a wide range of ages and measurement techniques showed a significantly lower academic self-concept for students with dyslexia or other learning disabilities than for the general student population (Zeleke. 2004).

Studies have shown that a relationship exists between student beliefs and student achievement (House, 2003; Valentine, DuBois, & Cooper, 2004). Self-efficacy is a self-perception term used to describe the student’s confidence or belief in their ability to succeed. Bandura (1997) described self-efficacy as person’s perception of their ability to perform an activity; this perception affects their current and future performance of this activity. In this manner, a person’s self-efficacy for a task will either facilitate or inhibit learning. Students who have a positive self-efficacy of their ability to read are more likely to engage in and persevere with reading tasks (Henk & Melnick, 1995; Mullis et al., 2003). Furthermore, reading self-efficacy appears to develop in response to initial experiences in learning to read (Chapman & Tunmer, 2003). As students transition from elementary to middle or junior high school and academic demands increase, accurate self-perception is considered to be particularly important. At this time, overly optimistic self-perceptions of earlier years are often replaced by more accurate self-perceptions of ability (Klassen, 2002). A measure of reading self-concept (or beliefs about the self) in
the Progress in International Reading Literacy Study (PIRLS, 2001) showed that students with a positive reading self-concept had higher levels of achievement in all countries (Mullis et al., 2003).

Klassen (2007) suggested using students’ predictions of their performance as an indicator of their beliefs about their capabilities to complete a task. In a study focused on writing and spelling self-efficacy of adolescent students with and without learning disabilities (LD), students were asked to predict how many items they expected to get correct, for example “Prediction: I believe that I can correctly write xx (out of 20) questions in 4 minutes” (Klassen, 2007, p. 179). Klassen found performance predictions were significantly correlated with conventional self-efficacy, and, like self-efficacy, were significantly and positively correlated with performance.

Self-efficacy has also been shown to be a mediating factor related to mental health and school completion. A Canadian longitudinal study followed 493 youth (228 girls and 265 boys) in low-socioeconomic-status secondary schools in Montreal over a six year period (Quiroga et al., 2013). The purpose of the study was to examine the mediating processes linking depression symptoms, self-perceived academic competence, and self-reported achievement in Grade 7 to dropping out of school in later years. Thirty-four percent of the participants dropped out of school in the six year time frame of the study. The results indicated that those students who reported having symptoms of depression were at an increased risk of dropping out of school in later adolescence. Furthermore, students who experience depression were also characterized by negative patterns of self-doubt; findings showed that the relationship between depression and
dropping out of school was mediated by self-perceptions of academic competence (Quiroga et al., 2013).

When students struggle to read, intervention should be early and based on evidence. Explicit and systematic reading instruction is essential, but not sufficient. For students who have struggled, a supportive learning environment is also necessary. Self-efficacy, and the willingness to initiate and persist at a task, especially a student with a history of failure, needs to be developed. Self-efficacy is enhanced through repeated successes; something only likely to occur if instruction is individualized, evidence-based, and provided in a nurturing environment.

Summary

Academic achievement has always been clearly associated with schools and schooling. Only recently has mental health been considered an important aspect of a more holistic approach to education. With this recognition and the growing research base supporting the interrelatedness of mental health and achievement, I have argued that educators must view one as impacting the other; thus effectively intervening for reading when students struggle to read may positively affect their mental health, as well as their ability to read. By extension, such changes may help some students who have previously struggled to thrive in school and beyond. This appreciative approach underlies the two studies reported in this dissertation.

As themes emerged from iterative analyses of retrospective interview and focus group data in Study 1, three themes dominated that focused on learning, behaviour, and the self. These themes put me in mind of a recent Canadian study, by Khanna, MacCormack, Kutsyuruba, McCart, and Freeman (2013), which identified three dual
domains as essential to youth thriving: cognitive/learning, behavioural/social, and psychological/emotional. Their domains provided an insightful means of organizing the data for the construction of the model in the first study, and suggested that the model could help us to understand what changes when struggling readers receive effective intervention and move toward thriving in school and beyond (Khanna et al., 2013).

Khanna and colleagues (2013) consolidated evidence by reviewing studies conducted between 2000 and 2013 and by drawing on three theoretical frameworks: Developmental Assets (Benson et al., 1998), the Five Cs Model (Eccles & Gootman, 2002; Lerner et al., 2005), and Self-determination Theory (Deci & Ryan, 1985). The result was their comprehensive model of thriving with its three domains which embodies the current thrust in education towards broadly fostering the well-being of students and moves away from problem-focused reactive approaches that target specific classroom challenges and student deficits (Morrison & Peterson, 2013). Morrison and Peterson argued that success in these domains satisfies the critical human needs for autonomy, relatedness, and competence as posited by Ryan and Deci (2000). This more positive approach focuses on educators developing strategies and directions that support student thriving, which Benson and Scales (2009) suggested is an “under-utilized construct.”

Thriving had its roots in the medical field originating with the phrase “failure to thrive” (Riley, Landwirth, Kaplan, & Collipp, 1968), which was used to refer to the inadequate weight gain and physical growth of young children (generally under the age of two years) in comparison to other same-aged children. Thriving can be conceptualized as a state or as a process; when seen as a state, thriving occurs when children and youth are successful in a number of areas; it is conceptualized as a process when children and
youth are on a path towards full potential (Heck et al., 2010). In the current research, I viewed thriving as a positive trajectory, which goes beyond adequacy and competence and maximizes potential in a number of areas, so that well-being and life satisfaction are enhanced. Thriving is purposeful and directional in that individuals have a role in determining the trajectory. In the remaining sections of this chapter, I briefly introduce the three domains of thriving as found in the work of Khanna et al. (2013): cognitive/learning, behavioural/social, and psychological/emotional.

**Cognitive/Learning Domain**

In this domain, cognition refers to the process of acquiring knowledge or skills through thinking, remembering, knowing, and problem solving, while learning is the outcome of such cognitive processes and contributes to students experiencing feelings of competence. Outcomes in this domain include higher test scores, the development of effective learning strategies, and engagement with and commitment to lifelong learning (Khanna et al., 2013). The relationship between academic achievement and well-being is robust (Miller, Connolly, & Maguire, 2013), and strategies aimed to improve well-being, may also improve academic achievement (Ickovics, et al., 2014). Conversely, academic struggles and repeated failure can evolve into negative attitudes and emotions that extend beyond academics and are associated with long term negative outcomes for mental health and general well-being.

**Behavioural/Social Domain**

As this review of literature has shown, students identified with EBD demonstrate large academic deficits particularly in reading, mathematics, and written language achievement (Nelson et al., 2004; Ruhl & Berlinghoff, 1992; Trout et al., 2003).
Moreover, students with EBD who exhibited externalizing behaviours such as attention-seeking, aggression, and delinquency were even more likely to experience academic achievement deficits than students who exhibited internalizing behaviours such as anxiety, depression, and social and thought problems (such as seeing or hearing things, repeating acts, and having obsessions or strange ideas and behaviours) (Nelson et al., 2004). That the academic deficits of students with what are now recognized as mental health issues, stabilize or grow worse over time suggests a need for early and effective intervention, without which, these students are at risk of negative outcomes in school and in life (Levy & Chard, 2001).

**Psychological/Emotional Domain**

As reviewed, difficulties in reading have also been linked to less than optimal levels of emotional well-being. Students with reading difficulties may be characterized by feelings of low or inadequate self-efficacy (Ingesson, 2007), of anxiety (Carroll et al., 2005; Dahle et al., 2011; Grills-Taquechel, Fletcher, Vaughn, & Stuebing, 2012), of depression (Maughan et al., 2003), and in some cases suicidal ideation (Dahle, et al., 2011; Daniel, et al., 2006). Studies on the mental health of individuals with learning disabilities, across a range of ages, have reported poorer overall mental health compared to people without learning disabilities (Dahle et al., 2011; Wilson et al., 2009). Mental health issues reported included anxiety, depression and, in some cases, suicidal ideation.

**Conclusion**

From a growing body of literature, it is becoming clear that reading ability and mental health are interrelated. Manifestations of this relationship in the earlier literature referred to problem behaviours and reading, and, more recently, to mental health and
reading. There is evidence that struggling readers are at risk of experiencing a range of mental health challenges including anxiety, depression, and suicidal ideation. Because of the prolonged, deleterious effects of struggling to read, it is likely that only with a supportive learning environment, in addition to effective instruction, will struggling readers make gains in reading. Importantly, if the two are as intertwined as it appears, some students who make gains in reading may also experience improved mental health.

In the emerging work on mental health, the construct of thriving and the three constituent domains—the cognitive/learning, behavioural/social, and psychological/emotional domains—are a cogent way to capture the breadth of mental health in schools. Many students who are either non-readers or struggling readers are not thriving. These students struggle in at least one domain, and potentially in all three domains. Individualized, evidence-based reading instruction given in a supportive nurturing environment will likely enhance self-efficacy and motivation for learning. It is at this juncture that the potential for learning is the greatest. Gains in reading, by definition, positively affect the cognitive/learning domain and have the potential to enhance the behavioural/social and the psychological/emotional domains as well.
Chapter 3

Learning to Read and Thriving

Introduction

In the past 15 years researchers, parents, and teachers have noted that academic difficulties often seem to be accompanied by challenging behaviours and even by emotional difficulties (e.g., Morgan et al., 2012; Morrison & Peterson, 2013). Many researchers have tried to discern whether academic difficulties (especially in learning to read) caused behavioural problems or whether behavioural problems spawned academic difficulties. These researchers included Morgan and colleagues (2009), Morgan et al. (2012), Scott and Shearer-Lingo (2002), and Wehby, Falk, Barton-Arwood, Lane, and Cooley (2003). Gradually their studies produced data to support a correlational relationship between the two and evidence for a causal relationship (Reid et al., 2004). Recently, many of these researchers have made a conceptual shift from focusing on problem behaviours (and from labelling children as having emotional and behavioural disorders [EBD]) to considering children’s mental health more broadly. The present study adopts a mental health perspective, although much of the earlier research that is cited used the terminology of problem behaviours and EBD. The term problem behaviours in this study is not used in the clinical sense as defined in the Diagnostic and Statistical Manual (American Psychiatric Association, 2013), but instead is based on the language used by the participants and reflects what parents, guardians, and classroom teachers consider to be problem behaviours, such as acting out, non-compliance, and aggressive behaviour.
While most studies of the relationship between academic challenges and behaviour or mental health issues have used quantitative methods, there is a need for qualitative studies to facilitate the description, understanding, and unpacking of the nature of the relationships between the academic and mental health realms. Because educators and policy makers have identified mental health issues as among the most pressing issues in today’s schools (Morrison & Peterson, 2013), researchers have begun to ask what focus intervention research should take to best address these issues. The study reported here responds to these concerns by adopting a framework that emphasizes mental health, and by using qualitative research methods to generate a model that helps us understand the relationship. The intent of the model is to describe perceived changes in students’ academic and mental health characteristics during and following an intense intervention for problem readers, about whom adults had expressed mental health concerns.

This study is framed by two phenomena. The first is the pervasive concern today about how to enhance student mental health. The second is the long-standing history of research that has demonstrated connections between low academic achievement, especially in reading, and student mental health (often referred to in the past as behavioural disorders). Recently, there have been many programs implemented with the hope of enhancing student mental health, but most of these are new and relatively untested (e.g., Manion et al., 2013; Whitley, 2010). In contrast, there is a long history of effective interventions to improve academic achievement especially in reading. Thus, I set out to investigate what changes, if any, in student mental health are measurable when
students (about whom adults have expressed mental health concerns) are successful in an intensive reading intervention.

**Study Purpose**

The purpose of this study was to unpack the relationship between learning to read and the mental health of struggling readers who have concomitant mental health concerns. By identifying the accompanying changes that were perceived as occurring when reading improves—from the perspectives of the parents of students who have recently completed a reading intervention, as well as from the perspectives of their classroom teachers at the time of the intervention, and of the reading instructors who delivered the intervention—the overall significance of increasing competence in reading may be described. Within the construct of thriving, learning to read is one important aspect in which competence can be achieved; with this achievement, simultaneous relational gains may occur in mental health, which, in turn, could potentially contribute to student thriving. Thriving occurs as students achieve success in a number of areas, such as academics, as they progress towards maximizing their full potential. With a greater understanding of the relationship between intervening in reading and the mental health of students, this study set out to develop a model of the overall changes described by parents, teachers, and reading instructors.

**Context**

The data for this model-building study were collected through two types of interviews (nine individual interviews and three small group interviews) with adults associated with nine children who had participated in an intensive reading intervention at The Reading Room (a pseudonym). The reading intervention, offered in a mid-sized city
in Ontario, is research-based and uses direct instruction to provide systematic and sequential lessons that focus on the development of reading decoding skills and, to a lesser extent, comprehension. This intensive intervention model uses individual instruction to remediate reading difficulties of struggling students. The reading instructors described the intervention as teaching foundational and developmental reading skills including phonemic awareness (PA), phonics (sound/symbol recognition), fluency (accuracy and speed), vocabulary, and comprehension. These skills are consistent with those identified by the National Reading Panel (NRP) as essential components of an effective reading program (National Institute of Child Health and Human Development, 2000). Morphology (word meaning) is also taught as part of the intervention at The Reading Room. The Reading Room is privately operated and charges fees for its services, thus restricting its availability to families who are financially able to afford the costs or who are awarded bursaries. The students in the intervention have generally experienced substantial and sustained difficulties in reading prior to enrolling in the intervention. The description of the intervention and context has been drawn primarily from interviews with the two reading instructors.

**The reading instructors.** The two reading instructors interviewed for this study have instructed at The Reading Room since its inception in 2002. Allyson (a pseudonym), an occupational therapist and the founder of The Reading Room, recognized a need for an intensive, structured, and sequenced reading intervention, when her children were identified with reading and math learning disabilities. At that time, she and her children travelled to Calgary and Boston for a reading intervention that would meet their needs. To fill this local need, Allyson teamed up with Jenelle (a pseudonym),
and together they trained in the Association Method (DuBard & Martin, 2000), Barton Reading and Spelling (1999), as well as Discover Reading and Discover Math (The Reading Foundation, n.d.). In addition, in 2007 they became certified Orton-Gillingham instructors as recommended by the International Dyslexia Association. When interviewed, they described how, with their developing expertise, they blended what they saw as the best of these programs to create an intensive reading intervention to meet the needs of local struggling readers.

The students who attend The Reading Room. Because The Reading Room is a private clinic, all attending students are from families able to afford the tuition. They tend to come from “fairly book-rich family environments” (Jenelle). Students who attend generally have “substantial problems” and are academically achieving at least one grade below their current grade, often are two grades behind, and on occasion, are as many as five grades behind their peers (Allyson). These delayed or, in some cases, non-readers, often have reading scores at the 1st percentile, and decoding tends to be the main dimension of reading in need of remediation. Most students who attend The Reading Room are in Grades 2 to 6 with Grade 4 being the mode, but there are also a few in Kindergarten, and some from higher grades including high school. There tend to be more boys than girls.

By the time students attend The Reading Room, they generally have been severely affected by dyslexia in some way. Jenelle describes students as often being “scared, extremely anxious, closed, silent, guarded,” with a small group that is “very angry.” Students tend to be underachieving, discouraged, not engaged in the reading process, and fearful of further failure. According to Allyson, “most students are hesitant,
some are shut down, and all have lost confidence in what they can do.” Older students have a tendency to discredit or devalue reading in order to protect themselves (Allyson). Jenelle, who usually works with older students, described a typical student as being male, from Grades 3 to 5, and verbally strong. Older students are generally conscious that they are behind their peers in reading and, as a result, are often not coping well. Jenelle described them as reserved, distrustful, and sometimes “outright hostile.”

**The intervention.** Although the reading intervention is structured and systematic, it remains sufficiently flexible to meet the needs of individual students. Following an initial assessment, 50 hours of intervention are delivered in one of two formats; two hours per day for five weeks (students in Grades 5 or higher) or one hour per day for ten weeks (primary students in Kindergarten to Grade 4). Students attend their home school for the remainder of the day during this period. At the end of 50 hours of intervention, each student is reassessed to decide whether the student requires further intervention at The Reading Room or whether the student is ready for less intensive supports that can be provided at home and at school.

Both instructors stressed the importance of ensuring success from the beginning of the intervention and throughout its implementation. Especially initially, the individualized instruction is designed to ensure success and, as students relax and gain confidence, the instructors begin to increase the level of difficulty. The focus of instruction is usually on decoding. Phonemic awareness (PA), that is, the ability to identify and manipulate phonemes (the smallest sound units), is first taught through maneuvering blank (letter-free) tiles in a series of blending and segmenting exercises. Sound/symbol relationships, phonics, are taught one at a time and sequentially from
simpler to more complex sounds. Short vowel sounds are first taught, followed by long vowel sounds, and then consonants. Two-sound blending, three-sound blending, and more complex codes are then taught. Lessons often overlap to integrate previously learned material. The instructors reported that with the constant repetition, lessons can be inherently boring, so they consciously strive to make the lessons engaging and dynamic; the units are short and interactive and often incorporate games. Spelling is taught in each lesson, and morphology (affixes and word meaning) is introduced once a student has learned to decode.

**Rationale**

The importance of being able to read extends well beyond academic benefits. Children and adolescents who struggle to read experience deleterious effects, in both their school lives and their personal lives, which often compromise their mental health (Dahle et al., 2011; Grills-Taquechel, Fletcher, Vaughn, & Stuebing, 2012). In addition to the academic benefits of being able to read, reading is also related to a student’s ability to achieve in other academic areas and to focus their attention (Hirvonen, Georgiou, Lerkkanen, Aunola, & Nurmi, 2010; Morgan et al., 2012), as well as being related to their behaviour (Morgan et al., 2008; Trout et al., 2003) and to their psycho-social well-being (Morgan et al., 2012).

**Thriving**

A current thrust in education is towards broadly fostering the mental health of students and away from problem-focused reactive approaches that target specific classroom challenges and deficits (Morrison & Peterson, 2013). This more positive approach focuses on strategies and directions that support student thriving. Benson and
Scales (2009) suggested that thriving is an “under-utilized construct” that can add value to theory, research, and application related to human development. Thriving has its roots in the medical field originating with the phrase “failure to thrive” (Riley et al., 1968), which was used to refer to the inadequate weight gain and physical growth of young children (generally under the age of two years) in comparison to other same-aged children. As a corollary, the concept of thriving is emerging as either a state or a process; as a state, thriving is conceptualized as occurring when children and adolescents are successful in a number of areas and conceptualized as a process when they are on a path towards full potential (Heck et al., 2010). For the present study, thriving was defined as a positive trajectory that goes beyond adequacy and competence—thriving maximizes potential in a number of areas including academic, social, and extra-curricular activities, so that well-being and life satisfaction are greatly enhanced. Thriving is purposeful and directional in that individuals have a role in determining the trajectory.

Recent conceptual and empirical work suggests that in order for students to thrive overall, there are three areas in which they need to thrive: cognitive, behavioural, and affective (Morrison & Peterson, 2013). Morrison and Peterson have argued that success in these areas positively affects mental health by satisfying the critical human needs for autonomy, relatedness, and competence as posited by Ryan and Deci (2000). A recent report by Canadian researchers —Khanna et al. (2013)— consolidates the evidence and theory from three theoretical frameworks: Developmental Assets (Benson et al., 1998), the Five Cs Model (Eccles & Gootman, 2002; Lerner et al., 2005), and Self Determination Theory (Deci & Ryan, 1985) to create a comprehensive model of thriving. Their synthesis of the literature from 2000 to 2013 indicates that in order to thrive, youth
need to be successful in three domains: cognitive/learning, behavioural/social, and psychological/emotional. The findings of my study map onto these domains so they were used to structure this brief review of literature, as well as the report of the findings of this model-building study.

**Cognitive/Learning Domain**

Cognition generally refers to the *process* of acquiring knowledge or skills through thinking, remembering, knowing, and problem solving. Learning is the *result* of these cognitive processes. Successful learning leads to students experiencing feelings of competence, a critical aspect of thriving. Outcomes in the cognitive/learning domain, as described by Khanna et al. (2013), refer to cognitive-related achievements such as higher academic test scores, the development of effective learning strategies, and an engagement with and commitment to lifelong learning.

It seems intuitive that, in a school setting, mental health and academic success should be positively related. Some studies have shown that the relationship between mental health and academic achievement is significant and robust (Miller et al., 2013), and that instructional strategies aimed to improve mental health may also improve academic achievement (Ickovics et al., 2012). Academic struggles and repeated experiences of failure may evolve into negative attitudes and emotions that can go beyond academics and often are also associated with long-term negative outcomes for mental health. A recent longitudinal study by Morgan et al. (2012) found that poor readers in Grade 3 were about twice as likely to consider themselves as angry, distractible, sad, lonely, and unpopular in Grade 5 than those who were not poor readers in Grade 3. These findings of a subsample of children (*N* = 3,308), participating in the
Early Childhood Longitudinal Study–Kindergarten Cohort, provide empirical evidence for the claim that “reading failure contributes to generalized socioemotional maladjustment in young children” (p. 360).

**Behavioural/Social Domain**

Researchers have provided data for a causal relationship between reading and behaviour problems in both directions; however, findings to date remain inconsistent. What research has shown is that students with EBD often have coexisting general academic and reading deficits (Levy & Chard, 2001; Strong et al., 2004). Carroll and colleagues (2005) found that literacy difficulties and reading problems were closely related to Conduct Disorder (CD) and, in another study, parents of youth who struggled to read, as well as the youth themselves, reported more delinquent or rule breaking behaviours than did the parents of youth with typical reading ability (Arnold et al., 2005).

There has been evidence for several decades supporting a reciprocal relationship between poor academic achievement and problem behaviour (e.g., Hinshaw, 1992). In addition, underachievement has been shown to foster inappropriate behaviour (Morgan et al., 2008; Trout et al., 2003) while problem behaviour has been shown to be detrimental to academic performance (Webby et al., 2003). Behaviour problems have also been found to coexist in students with reading difficulties.

Several studies have shown that students with EBD often have large academic deficits with externalizing behaviours particularly related to reading, mathematics, and written language achievement (Nelson et al., 2004; Trout et al., 2003). Ruhl and Berlinghoff (1992) suggested that between 33% and 81% of children with behavioural disorders also have academic difficulties. In their cross-sectional study of 155 K-12
students with EBD, Nelson et al. (2004) found that: the sample as a whole (both boys and girls) experienced large academic achievement deficits in all content areas compared to the group on which the achievement test was normed, and academic achievement levels in reading and written language remained constant, but delayed, through the grades, while math deficits tended to increase with age. Furthermore, students with EBD who exhibited externalizing behaviours such as attention-seeking, aggression, and delinquency were more likely to experience academic achievement deficits in all content areas than students who exhibited internalizing behaviours such as somatic complaints, anxiety, depression, and social and thought problems. That the academic deficits of students with EBD seem to stabilize or grow worse over time suggests a need for early and effective intervention, without which these students are at-risk of negative outcomes in both school and life. Researchers have argued that the risk for this group is greater than for students with other disabilities (Levy & Chard, 2001; Trout et al., 2003).

In investigating the relationship between behaviour problems and the academic achievement of adolescents, Barriga et al. (2002) identified what they called “the unique role of attention problems” (p. 233). Their study examined the relationship between eight teacher-reported behaviour problems—withdrawal, somatic complaints (unexplained health complaints), anxiety/depression, social problems, thought problems, attention problems, delinquent behaviour, and aggressive behaviour—and standardized measures of academic achievement (overall, reading, spelling, and mathematics). The participants were boys \((n = 41)\) and girls \((n = 17)\) aged 11 to 19 years who were attending an alternative school for students with disruptive behaviour (especially aggression) and poor interpersonal relationships with peers and teachers. Through correlation and regression
analyses, the researchers found that five of the behaviour problems—withdrawal, somatic complaints (internalizing behaviours), attention problems, delinquent behaviour, and aggressive behaviour (externalizing behaviours)—were significantly correlated with the academic achievement measures. In contrast, anxiety/depression and thought problems (internalizing behaviours) and social problems (externalizing behaviours) were not significantly correlated with academic achievement. Multiple regression analyses were conducted to assess the relationships between four measures of behaviour (withdrawal, somatic complaints, delinquent behaviour, and aggressive behaviour) and each of the academic achievement measures, while controlling for attention. The same pattern of significance emerged for each analysis. Only attention problems were associated with the unique variance in each of the academic achievement measures (overall, reading, spelling, and arithmetic). Thus the authors concluded that attention problems mediated each of the relationships between the other four problem behaviours and the academic achievement measures.

The literature indicates that students with EBD are generally deficient across all academic subject areas (Nelson et al., 2004; Reid et al., 2004), with reading most frequently cited as a particular concern (Levy & Chard, 2001; Nelson et al., 2004; Strong et al., 2004; Trout et al., 2003). This may be due, in part, to the prevailing public value placed on the development of literacy skills, such as societal recognition of reading as an essential life skill. In addition to reading, several studies have also indicated mathematics (Nelson et al., 2004; Reid et al., 2004; Trout et al., 2003) and spelling (Reid et al., 2004) as areas of deficiency for students with EBD.
**Psychological/Emotional Domain**

Difficulties in reading have also been linked to mental health challenges. Students with reading difficulties may be characterized by feelings of low or inadequate self-efficacy (Ingesson, 2007), feelings of anxiety (Carroll et al., 2005; Dahle et al., 2011; Grills-Taquechel et al., 2011), as having somatic complaints and depression (Maughan et al., 2003), and in some cases suicidal ideation (Dahle et al., 2011; Daniel et al., 2006). For example, a study on the mental health of Canadians (aged 15 to 44 years) with self-reported learning disabilities showed that they had poorer overall mental health than did people without learning disabilities and were more than twice as likely to report higher levels of distress, depression, anxiety disorders, and suicidal thoughts (Wilson et al., 2009).

In another study of 75 teenagers with dyslexia (Ingesson, 2007), the majority reported that the first six grades of school were full of generalized distress and, as their reading problems deepened, this distress became more specifically related to reading and writing activities. Furthermore, most of these students had low academic self-efficacy with few electing to go to post-secondary institutions. Dahle et al. (2011) found that in a group of 70 students with severe dyslexia that was resistant to interventions, a number of concerns were reported by parents, teachers, and the students themselves. Parents reported that their children were anxious and depressed, and had social and attention problems. Parents also reported suicidal ideation in nine of the participants. Compared to a control group—pair-wise matched on age, gender, cognitive level, and whether they lived in rural or urban areas—the students with severe dyslexia were more withdrawn, more anxious and depressed, and had more somatic complaints, social problems, and
attention problems. They were also rated as having more delinquent and aggressive
behaviours (as reported by themselves, their parents, and their teachers) than did the
control group, but these problems were less severe than the internalizing behaviours.

While the findings of previous research clearly show that students who are
struggling readers also demonstrate difficulties in the three domains that make up
thriving—the cognitive/learning, behavioural/social, and psychological/emotional
domains—it is not nearly as clear how reading and thriving are related when reading
improves. The purpose of the current study was to gain insight into the relationship
between intervening in one academic area, reading, and the mental health and potential
for thriving of students.

Method

This qualitative study used grounded theory and an inductive methodology; data
were collected and analysed to generate a model of any changes that accompanied gains
in reading for struggling readers. Data for this study were collected through focus groups
and individual interviews in order to utilize the inherent advantages of each methodology,
while compensating for its disadvantages. The primary advantage of collecting data
through focus groups compared to individual interviews is the greater breadth it brings to
the study, while individual interviews allow for greater depth than focus groups (Morgan,
1996). The interactions in focus groups, or the “group effect” (Carey, 1994), becomes
more than an aggregate of isolated perspectives in that participants often question each
other and may either validate, extend or reject what has been said. There are however,
several disadvantages of focus group interviews; the impact of the group may “skew” the
data, and in some cases participants may feel less comfortable in a group setting to
express themselves to any great depth (Morgan, 1996). Barbour (1998) suggested that by combining these qualitative research techniques, the shortcomings of one can be compensated for by the other.

Because children spend most of their time either at home or at school, their parents and the teachers who teach them are invaluable observers and interpreters of what transpires when reading improves for the struggling reader. Using focus groups and individual interviews, a detailed descriptive account was developed of the experiences and perspectives reported by two participant groups: parents of nine students who had completed the intervention and classroom teachers of seven of these students. Three focus groups were conducted; one with classroom teachers and two with parents and guardians. Seven individual interviews were held—three with parents and four with classroom teachers. To augment these data, individual interviews were conducted with the two reading instructors who predominantly provided the intervention at The Reading Room as experienced by the nine students.

Classroom teachers of seven of the nine students agreed to participate in this study. I used the same focus group and individual interview questions for the parents and teachers, which were focused on: (a) the students’ reading and social/emotional well-being prior to the beginning of the intervention; (b) the kinds of changes perceived as having occurred during the intervention with questions about reading, attitude, social/emotional well-being, and other changes the parents and teachers observed, and (c) the students’ reading, attitude, social/emotional well-being, and other changes following the intervention (Appendices A and B). These data were then analyzed to create a model
of changes that were identified by the participants as having evolved as the students’ reading improved.

Individual interview questions for reading instructors focused on the context of the intervention and on changes they had observed in students in general over the years. These more generalized, longer term perspectives supplement the findings from the parents and teachers of nine students and contributed to the development of the model that is consistent with their broader experience of students’ learning to read at The Reading Room.

Participants

A total of 18 participants, including parents and guardians, classroom teachers, and reading instructors participated in this study. Parent and guardian participants were selected based on the recommendation of Allyson, the founder of and an instructor at The Reading Room. Allyson initially recommended 15 parents as potential participants because they had a child who had recently (within the past year) completed the intervention at The Reading Room and because of conversations she had had with these parents about changes they had noted in their child as they transitioned from a struggling or non-reader to a more able reader. In each case, parents at one time or another had referred to a change or changes that became apparent in their child; changes that had occurred in addition to their improved ability to read. Because an improvement in reading ability is essential to this study, only the parents of those students who had at least a nine point increase (significant at a $p < 0.5$ level) in their Oral Reading Quotient (ORQ) on the Gray Oral Reading Test (GORT) (Wiederholt & Bryant, 2001) were invited to participate. The ORQ is a combined score of the fluency and comprehension scores of the
test and is considered to be the most reliable indicator of a student’s overall reading ability (Wiederholt & Bryant, 2001). As a result, ten parents were invited to participate in this study, nine of whom agreed to do so. Interested participants were asked to complete a brief questionnaire providing demographic details and additional information relevant to the study, such as, other impairments (e.g., physical, cognitive) and possible language delays of their child. In order to accommodate personal preference and scheduling details, parents were offered the opportunity to participate in either a focus group session or an individual interview. Six parents consented to focus group interviews (two sessions with three participants in each), and three agreed to individual interviews.

The second participant group, the classroom teachers of students, consisted of seven participants. All the current classroom teachers who corresponded with the students of the participating parents were invited to participate; seven of the nine invited agreed to do so. As with the parents, teachers were given the choice of focus group or individual interviews; one focus group session was conducted with three teacher participants, and individual interviews were conducted with the four remaining teachers.

The two full-time reading instructors who teach the intervention at The Reading Room have had extensive experience in instructing students with dyslexia since the program’s inception in 2002. In addition to these two instructors, a third reading instructor who works at the Reading Room on a part-time basis occasionally taught some of the student participants. Individual interviews were conducted with the two full-time reading instructors to record their perspectives on the impact of learning to read on students who had initially struggled with reading. The part-time instructor was not interviewed for this study.
Data Collection

Because focus groups and individual interviews have different strengths, conducting both yields a form of triangulation of data which may be similar or different, but complementary, producing a more comprehensive understanding of the phenomenon (Lambert & Loiselle, 2008). The purpose of focus groups is to facilitate discussion, drawing out similarities and differences in the experiences of participants. Data from focus groups can be described as “collective conversations” (Kumberelis & Dimitriadis, 2005, p. 887) on “a defined area of interest in a permissive nonthreatening environment” in which the members of the group “influence each other by responding to ideas and comments in the discussion” (Krueger, 1994, p. 6), providing the opportunity for breadth of data. By contrast individual interviews allow for greater depth, by providing a focused and private opportunity for discussion, which is generally thought to be a safe environment (Kaplowitz, 2000).

Interviews were facilitated with sequential open-ended questions that were intended to reveal the observations, attitudes, and beliefs of the participants, in addition to their individual experiences. Parents were asked questions about what they had observed directly, what they had heard from the child’s classroom teacher, and what they interpreted as the thoughts or feelings of the child about reading and the changes they perceived as having occurred (Appendix A). The classroom teachers were asked the same questions about the student’s ability to read and what they noticed had changed at school, before, during, and following the reading intervention (Appendix B). My position as a primary/junior, part-time educator, with experience in special education in classrooms, allowed me to be sensitive to the concerns of the participating parents, and to understand
the educational struggles of the students as described by their parents and classroom teachers.

The focus group sessions and individual interviews were scheduled outside working hours and at a neutral and convenient location. Only the researcher, the author of this paper, was present to conduct the individual interviews. For focus group sessions, two researchers conducted the interview with one acting as the facilitator or moderator, and the other present to make relevant notes on who was speaking and to record both verbal and non-verbal behaviour of the participants as observed throughout the session and to operate the recording equipment. The second researcher, also a graduate student, made a summary of the highlights of the discussion and verified the content with the group at the end of the session, as recommended by Morgan (1998). The focus group sessions lasted 105 and 118 minutes for the parents, and 92 minutes for the classroom teachers. Individual interviews ranged between 30 and 60 minutes for the parents and between 28 and 65 minutes for the teachers. The structure of the interviews followed Krueger (1998) with a sequence that began with opening and introductory questions, followed by transfer, key, and specific questions, and ultimately ended with the closing and final questions. All focus group and individual interviews were transcribed verbatim and the transcriptions were checked against the recordings by the researcher.

Observations made by the reading instructors through the years were used to augment these data and to provide contextual information—the questions for the two individual interviews were open-ended and related primarily to the changes they had observed in students since beginning instruction at The Reading Room in 2002 (Appendix C). In general terms, the instructors were asked to discuss attitudinal and
behavioural changes they had noticed in students as they began to achieve in reading with the focus on reading, behaviour, and mental health. The two interviews took 58 minutes (Allyson) and 69 minutes (Jenelle). The instructors were interviewed separately in order to obtain their individual perspectives.

By combining focus group and individual interviews, researchers can capitalize on the inherent strengths of each. Due to the nature of the struggles experienced by their children, parents may find it difficult to discuss the challenges they and their children have faced. Affording participants a safe environment may allow for greater revelation of sensitive material as documented by Kaplowitz (2000). Focus group data also provide an opportunity for participants to expand, contradict, or verify information provided by other participants, often resulting in data that would not have surfaced otherwise.

Consequently, in addition to giving choice to participants, by providing both data methods, complementary—deeper and broader—data is likely to be revealed, while simultaneously improving data trustworthiness (Lambert & Loiselle, 2008).

**Data Analysis**

An inductive approach was used to analyse the data and NVivo 10 was used to facilitate the organization and management of the data and the analysis. Meaning was established through standard methods of qualitative theme analysis, including methods of constant comparison (Patton, 2002). Transcripts were initially read to get a “feel” for the data collected, from which emerged three central, meaningful ideas which I thought of as domains within well-being. This was then followed by a series of readings to identify dimensions within the three broad domains; six dimensions emerged, and further re-reading of the transcripts yielded elements within each dimension (inductive approach).
These dimensions informed coding of the data at a finer level. At this time codes were defined and entered as nodes in NVivo; the transcripts were then reviewed again, this time looking for additional data to support, refine, or change the domains, dimensions, and elements (deductive approach). Codes changed and evolved as I merged codes to form a more coherent coding framework and worked back up from the fine-grained coding through the elements to the dimensions and on to the domains. At this point, I had developed the model that I believed represented the collective observations and perspectives of the participants, of the changes that were perceived as having occurred as students became more able readers.

Through the process just described, the model evolved through three iterations (Table 3) to the final model presented at the end of this paper. The first iteration of this process generated three domains (with six dimensions): School-Related (academic changes, changes in attitude toward academics); Learning-Related (changes in attention, changes in behaviour); and Self-Related (changes in mental health, life skills and empowerment). There were a total of 20 elements within these dimensions. The second iteration yielded three similar domains: Learning-Related, Behaviour-Related, and Self-Related, representing the same six identified dimensions but with fewer elements (18). The third iteration consisted of three domains, each made up of two dimensions; there were only 15 elements. Because the content of the third iteration of the model was consistent with the conceptual writings of Khanna et al. (2013), I adopted their terminology for this last iteration of the model. The three primary areas of change or domains were therefore called: Cognitive/Learning (changes in academic achievement, changes in attitude); Behavioural/Social (changes in attention, changes in behaviour); and
Psychological/Emotional (changes in mental health, empowerment). In this final iteration, there are 15 elements within the six dimensions.
Findings

The students described in this study from the perspectives of their parents and classroom teachers were three girls and six boys. They ranged in age from six to twelve years (Grades 1 to 6) at the time they participated in the intervention at The Reading Room. All students had experienced ongoing struggles with reading and were reading below grade level, from one to two years below, when they began at The Reading Room. Eight of the nine students had had some form of reading intervention either at school, or privately, prior to enrolling in the intervention at The Reading Room. In this section, I report the findings in three subsections that focus on the students prior to the intervention, changes that were observed to have occurred as reading improved, and changes as observed by the reading instructors over the years.

The Students Prior to Beginning the Intervention at The Reading Room

Table 4 provides a brief description of each student as they were described by their parents and teachers before or in the early stages of the reading intervention; that is, before a change in their reading was noted. The dimension of reading that most of the students predominantly struggled with was decoding—the process of translating a printed word into sound. There was also a range in students’ abilities to comprehend; Ratin was described by his mother as having particularly poor comprehension, while Skylar, despite poor decoding skills, showed good comprehension. Skylar’s classroom teacher ascribed his ability to comprehend to his strong reasoning skills which allowed him to piece together meaning from even the few words he decoded. Not surprisingly, teachers and parents reported that five of the nine participants seldom volunteered or participated in the classroom: Amber and Skylar, if given time to formulate their answers would
Table 4

*Description of Students Prior to or in the Early Stages of the Reading Intervention*

<table>
<thead>
<tr>
<th>Student</th>
<th>Age/Grade</th>
<th>Description—Pre/Early Intervention</th>
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</table>
| Alyssa  | 7 yrs/Grade 2 | **General:** weak working memory  
**Academic:** could not decode; spelling difficulties  
**Attention/on-task behaviour:** if she could do the task she was focused  
**Mental health:** hated school; felt strongly she was not as good as her classmates  
**Behaviour:** well behaved, polite, respectful, well liked; quiet, could “slip through the cracks”; refused to go to the library |
| Amber   | 8 yrs/Grade 2 | **General:** in French immersion; always been exposed to books; exhausted by the end of the day; shy, a follower  
**Academic:** reading at a Grade 1 level—dyslexic; participated but needed time to respond; writing difficulties  
**Attention/on-task behaviour:** sometimes did not participate; would stare off in another direction—mind wandered; a very short attention span  
**Mental health:** withdrawn, quiet, not thriving and spent a lot of time with her head on the desk; did not want to go to school; frustrated; had stomach aches; unhappy, grumpy; lost self-confidence; self-conscious, very anxious  
**Behaviour:** good at school and unwound at home—had temper tantrums |
| Colton  | 12 yrs/Grade 6 | **General:** was in French immersion, but moved to English in Grade 4; not a risk-taker; non-identified; difficulty with fine motor skills; word retrieval delay; fell asleep at school  
**Academic:** difficult to assess because would not participate in assessment; reading difficulties—phonemic awareness; spelling difficulties; writing difficulties; math was on par; strong critical thinking skills; thrived with authentic, hands-on learning; good at art  
**Attention/on-task behaviour:** engaged *listening* to a story, doing artwork (doodling); shut down if not interested or work became too difficult; did not pay attention—put his head down  
**Mental health:** hated school, had a “disgruntled attitude”; frustrated; grumpy; low self-esteem; shut down; lacked confidence; frequent headaches/stomach aches  
**Behaviour:** absolutely refused to participate in anything he found difficult (e.g., writing)—preferred to stay in at recess; became “silly” when work was too difficult; a “royal pain in the butt” (e.g., bugged other kids, flicked things); frequent issues with teachers (control issues) |
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<tr>
<th>Student</th>
<th>Age/ Grade</th>
<th>Description—Pre/Early Intervention</th>
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</table>
| Eric    | 6 yrs/ Grade 1 | **General:** was in French immersion—switched to English in Grade 2  
**Academic:** reading at a Grade Kindergarten level—reading difficulties  
**Attention/on-task behaviour:** inattentive  
**Mental health:** felt like he was “stupid”; a fight to get to school (happy to come home)  
**Behaviour:** notes and calls about misbehaviour at school—attention seeking, did silly things, very disruptive, occasionally aggressive in the playground |
| Jake    | 7 yrs/ Grade 2 | **General:** very bright, curious, loves to learn; identified with ADHD and Asperger’s; disorganized; suffers from migraines  
**Academic:** reading difficulties; writing difficulties; difficult to assess because of inability to stay focused; good at art  
**Attention/on-task behaviour:** attentive when interested and hands-on; not attentive/on-task with reading and writing—often doodled instead; short attention span; could not focus; needed constant reminders  
**Mental health:** very, very, aware of inability to read; self-conscious about inability to read; chooses not to read out loud; still positive about going to school  
**Behaviour:** hyperactive; impulsive; social concerns because of impulsivity; could be disruptive; refused to work; refused to read out loud; asked to go to the bathroom; “goofy”; spun on chair—could not stay seated; very verbal and aggressive at home (mostly held it together at school) |
| Jeremy  | 11 yrs/ Grade 5 | **General:** very enthusiastic, very exuberant; poor organization skills; very social; often late for school  
**Academic:** refused to read; memorized story and pretended to read; learned how to do minimal work  
**Attention/on-task behaviour:** easily lost interest; needed reminders to stay on task; task avoidance; inattention  
**Mental health:** Lacked confidence when it came to doing work; called himself stupid; had an “emotional breakdown” (when admitted he had a reading problem); hated school (but loved the kids)  
**Behaviour:** hid under desk (Grade 2); fought over homework; misbehaved; acted out (became the class clown); refused to work; became disruptive; non-compliant (with testing) |
| Ratin   | 8 yrs/ Grade 3 | **General:** was in French immersion (but switched); needed structure; in the 90th percentile for visual memory  
**Academic:** reading at a Grade 2 level—struggled with reading; comprehension was poor; never participated in class; problems in math because of the reading  
**Attention/on-task behaviour:** task avoidance (sharpened pencil frequently, needed preferred eraser etc.)  
**Mental health:** tightly wound, easily upset; tense; self-soothed (knocked head on wall); often tears and frustration with reading; had many sick days—got so stressed he would wear himself down; he knew he could... |
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<tr>
<th>Student</th>
<th>Age/Grade</th>
<th>Description—Pre/Early Intervention</th>
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</table>
| Skylar  | 10 yrs/Grade 5 | not read; was self-conscious; felt a “bit demoralized” when he could not read out loud well; found school overwhelming; did not want to go to school  
**Behaviour:** excessively shy; never spoke to his teacher (literally) for one and a half years (Junior Kindergarten and half-way through Senior Kindergarten—the same teacher)  
**General:** not book bright, life bright (could fix things); good sense of humour; higher than average reasoning power; very responsible and capable (teacher); not a genius (mother); problems with short-term memory  
**Academic:** poor decoding skills, but good comprehension; could articulate, but needed time; math—weak in computations, but strong in reasoning/number sense; did not volunteer  
**Attention/on-task behaviour:** found it difficult to focus; tried to get out of things; needed to be cued; would sit for an hour before doing homework; never on task (mother); did everything he could to avoid work  
**Mental health:** tentative about answering/participating; found reading a “chore”; cried hysterically when doing homework; called himself stupid and dumb on a daily basis; feelings of inadequacy; low self-esteem; never wanted to go to school; got stomach aches/headaches; was anxious  
**Behaviour:** quite forceful/aggressive in the yard; would break pencil to avoid doing homework; sometime had problems in gym; angry and bitter inside; gets stomach aches/headaches; in groups—silly, uncooperative, contrary; would talk out; made fun of other kids; had problems particularly with one boy; volatile (kick, say inappropriate things) |
| Zia     | 10 yrs/Grade 4 | **General:** lives with her grandmother (but refers to her as her mom); has autism; assigned an EA; imaginative and creative; noise sensitive  
**Academic:** severe dyslexia; did not know the alphabet at the end of Grade 2; writing problems; did not participate  
**Attention/on-task behaviour:** a runner to avoid tasks; put her head down to avoid reading  
**Mental health:** had extremely high anxiety (screamed, yelled, crawled under the furniture); participated through a peer sitting beside her; hated going to go to school; frustrated; suicidal at 8 years old; said she was stupid; cried a lot in class; destroyed her self-esteem; pleaded to not have to go to school  
**Behaviour:** social problems (due to autism); a huge struggle to get her on the bus for school; a runner—left the school when there was something she did not want to do; kicked things; got very aggressive verbally—told the teachers she was going to kill them; desperate not to go to school—kicked, scratched, and spat at her grandmother |
periodically answer questions, whereas Colton firmly refused to participate. Because Zia lacked the confidence to participate directly, her classroom teacher reported adopting a peer-assisted technique of encouraging Zia to participate by suggesting she tell a specific neighbouring friend the answer, and the friend would then relay the information to the rest of the class. As well as reading difficulties, several students were described as experiencing other academic difficulties, that is writing ($n = 4$), spelling ($n = 2$), and math ($n = 2$).

Adults described these students as exhibiting a range of behaviours from constructive and socially acceptable to immature and on to aggressive. Alyssa was described by her classroom teacher as being well-behaved, polite, respectful, well-liked, and quiet, the kind of student who could easily “slip through the cracks.” Two students managed to control their inappropriate behaviour while at school, but lashed out at home, according to their parents. Amber was described as having “temper tantrums” at home and Jake was described as being “very verbal and aggressive” at home. Several students (Colton, Eric, and Skylar) were described as being “silly” at school, while Jake was described as “goofy” and Jeremy as “the class clown.” Eric, Skylar, Jake, and Zia were described as being aggressive on occasion in the classroom. All but three of the students (Alyssa, Amber, and Ratin) were described by their teachers as disruptive to the classroom environment.

Without exception, these students were not thriving; according to their parents and classroom teachers, the mental health of all students was affected by their inability or limited ability to read. With the exception of Jake, none of the students wanted to go to school, with four reportedly hating school (Alyssa, Zia, Jeremy, and Colton), and three
(Amber, Colton, and Skylar) exhibiting physical distress, such as headaches and stomach aches, at the thought of going to school. School-related anxiety was specified as adversely affecting five of the nine students with Jeremy and Zia responding by hiding under their desks. Students were also described as having low self-esteem and lacking in confidence. Eric, Jeremy, Skylar, and Zia referred to themselves as being “stupid” or “dumb” and were acutely aware that they were not at the same level as their classmates in their ability to read. The cumulative distress experienced by Zia was extreme to a level where her grandmother (her guardian at the time) described her as being suicidal at eight years of age.

This sample of students demonstrated the potential negative impacts that may accompany reading difficulties in elementary students. Participants described how they felt the home and school lives of these students were adversely and, in some cases, severely affected by their inability to read. Parents were passionate in their accounts, describing how their child’s struggles with reading affected the family. Teachers recognized the difficulties that accompanied struggles in learning to read, but seemed unable to affect change in the reading or the accompanying challenges of these students with severe reading difficulties. Both parents and teachers were emphatic about the need to help these students to become more able readers.

**Changes Perceived as Having Occurred as Reading Improved**

Study participants were asked to describe changes they had observed in the students as they began to succeed in reading. They were asked when they first noticed these changes, and then to describe the evolution of these changes. An analysis of the data revealed three broad areas of change. As Table 3 shows, the terminology evolved to
be described as three domains: cognitive/learning changes, behavioural/social changes, and psychological/emotional changes. Within these three domains, six dimensions were identified as having emerged, to varying degrees for individual students, as they learned to read: (a) changes in academic achievement, (b) changes in attitude towards academic endeavours, (c) changes in attention, (d) changes in inappropriate behaviour, (e) changes in emotional health, and (f) changes in empowerment. Within these dimensions there were 15 elements (Table 5). It is these domains, dimensions, and elements that constitute the model developed in this study to represent the changes that these data suggest occurred as reading improved. The data about these nine students demonstrated that the nature of these changes varied with each individual.

**Cognitive/learning changes.** Cognitive/learning changes included changes in academic achievement, in attitude towards school and reading, and in willingness to participate in class. Academic changes included themes related to changes in reading (decoding and comprehension) and written expression (improved spelling and greater volume of writing produced). Changes in attitude towards school included greater willingness to attend, less resistance to getting ready for school in the mornings, and fewer pronouncements of “hating” school. A change in attitude towards reading was shown by greater willingness to read, the reading of longer passages, and a general interest in books that was not evident previously. Examples of improved willingness to participate in class included more frequent volunteering of answers in class, as well as volunteering to read, which in many cases these students had never done before.

**Changes in academic achievement.** The most dominant and ubiquitous academic changes were demonstrated in reading and writing. Because improvement in reading was
<table>
<thead>
<tr>
<th>Student (m/f)</th>
<th>Participant (Observer)</th>
<th>Cognitive/Learning Changes</th>
<th>Behavioural/Social Changes</th>
<th>Psychological/Emotional Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Achievement: Reading (R)</td>
<td>Attitude Towards: School (S) Reading (R) Participation (P)</td>
<td>Attention: Avoidance (Av) Attention (At)</td>
</tr>
<tr>
<td>Alyssa (f)</td>
<td>mother teacher</td>
<td>R</td>
<td>R</td>
<td>(not a concern) (not a concern) (not a concern)</td>
</tr>
<tr>
<td></td>
<td>teacher</td>
<td>R/W</td>
<td>S/R</td>
<td>Av/At</td>
</tr>
<tr>
<td>Amber (f)</td>
<td>mother teacher</td>
<td>R</td>
<td>S/R</td>
<td>R</td>
</tr>
<tr>
<td>Colton (m)</td>
<td>mother teacher</td>
<td>R</td>
<td>S/R</td>
<td>R</td>
</tr>
<tr>
<td>Eric (m)</td>
<td>mother</td>
<td>R/W</td>
<td>S/R</td>
<td>At</td>
</tr>
<tr>
<td>Jake (m)</td>
<td>mother teacher</td>
<td>R/W</td>
<td>S/R/P</td>
<td>Av</td>
</tr>
<tr>
<td>Jeremy (m)</td>
<td>mother teacher</td>
<td>R/W</td>
<td>S/R</td>
<td>At</td>
</tr>
<tr>
<td>Ratin (m)</td>
<td>mother</td>
<td>R/W</td>
<td>S/R/P</td>
<td>Av/At</td>
</tr>
<tr>
<td>Skylar (m)</td>
<td>mother teacher</td>
<td>R</td>
<td>S</td>
<td>Av/At</td>
</tr>
<tr>
<td>Zia (f)</td>
<td>Grandmother</td>
<td>R</td>
<td>S/R</td>
<td>R</td>
</tr>
<tr>
<td>Prevalence (out of 9):</td>
<td></td>
<td>9</td>
<td>9</td>
<td>6</td>
</tr>
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</table>
one of the requirements for participation in this study, all nine students gained a minimum of nine points on the Oral Reading Quotient of the GORT, as stipulated by the selection criteria. Nine points between pre- and post-intervention is the minimal difference at the 0.05 confidence interval to conclude that the reading intervention was effective in improving reading ability (Wiederholt & Bryant, 2001). What is described here is the nature of the change in ability to read as manifested by each of the nine students, according to the participating adults.

*Changes in reading.* Parents were impressed by how soon they started seeing a change in their child’s ability to read, with many saying it was within the first two weeks of the intervention. Parents were clearly moved by their child’s improved ability: “I remember one specific day getting on that [Highway] 401 and Colton started to read every sign on that 401 to me; the tears ran down my face” (Colton’s mother). Ratin’s mother was ecstatic with her son’s ability to read by the time he had completed the intervention; “he gained two years over the course of those eight months,” and this meant that he was now able to read chapter books, and “sound out words that were unfamiliar, and that was amazing.” Jake’s case is particularly revealing because nothing in Jake’s life changed except his ability to read; his teacher remained the same (she taught Jake for three consecutive years) and his mother reported that there were no significant changes in his life outside school. Jake’s teacher said that “it didn’t take long” to see a change; about halfway through the intervention, “He was using those strategies,” and “If you asked him questions, he was able to talk about the book, not just because it was prior knowledge which a lot of times it was [before], [now] he was able to refer to something from the text.” Jake’s mother noticed a change in his reading even earlier, “I'm not kidding, within
two weeks there was a change . . . I couldn't even believe it! . . . he was excited to do his reading homework . . . and excited to go back [to The Reading Room].” She went on to say, “As each week went by, we kept seeing him progress, and he wanted to read, and he could read.” Although the reading ability of all students did improve, many still struggled; for example, Alyssa’s mother described her reading as improved, but not fluent, and Skylar was described by his mother as being “still a slow reader.”

Changes in writing. Another remarkably consistent improvement noted by both parents and teachers was students’ improvement in writing. Eight of the nine students were reported to show gains in writing ability; some demonstrated improved spelling; some were more able to express their thoughts and ideas; and, in one case, even handwriting improved. Amber’s teacher described writing for Amber before she went to The Reading Room as being “taxing.” In contrast, as Amber became a more able reader, her enthusiasm for writing blossomed; “She’s now one of the last ones up [from her desk], when I say that’s it, you're done, she is still writing away . . . ‘I need some more paper!’” Colton’s teacher also commented on an evident change; before the reading intervention, Colton was so resistant to writing, he refused to do any writing-related activity. Following the intervention his teacher reported, “He started doing it. The main thing with the writing was that he was doing it, like he was writing…I mean that was huge.” The same was true for Jake, as his mother reported: “his writing has improved too, and he wants to write stories all the time in a journal.” For Jake, the physical act of writing (printing) also improved; “His handwriting now is beautiful,” (Jake’s mother) as did his ability to express himself; “His writing improved tremendously. . . . you can even . . . hear his voice in his words. It made such a big difference for him. . . . and it just kept
getting better” (Jake’s teacher). In addition to reading and writing in English, the one student who was still in French Immersion, Amber, also improved in her ability to read and write in French, as reported by her mother and classroom teacher.

**Changes in attitude.** Although the nature of the changes varied among the students, there were changes in attitude towards school, reading, and willingness to participate in class. Several parents reported struggles they had experienced in getting their children to school before their children began attending the reading intervention. According to their parents, eight of the nine students either said they did not want to go to school, “hated” school, or put up a substantial fight to avoid going to school. Only Jake, despite his challenges, was reported to have maintained a positive attitude towards school prior to the intervention. Amber had mixed feelings towards school, as did Jeremy. According to her mother, Amber “always enjoyed school and loved her friends there,” but “then she started getting up in the morning [and] saying that she didn’t want to go to school.” The same was true for Jeremy; his mother reported that “he loves the kids, but he hated school.” Mornings were a continual struggle for Skylar; he “would get up in the morning [and say]—‘I don’t feel good, my stomach hurts, can I stay home?’ He never wanted to go to school” (Skylar’s mother). Several other parents also commented on their child hating school—Colton’s mother said that he “just hated the idea of going to school,” and, although Alyssa’s mother described her as “complacent” and always wanting to please, Alyssa frequently complained that she “hated school,” while Eric’s mother described her son as “dreading” going to school.
Of the nine students, Zia was the one who was the greatest challenge to get to school in the mornings. According to her grandmother, Zia “hated it [school] every single day,” and she went on to describe the daily ordeal she endured trying to get Zia to school:

Every day, like when she would see the bus coming around the corner, she would take off into somebody's backyard, and here I am running through people’s backyard in my pajamas... and then I’d have to physically carry her, and she is almost as tall as me, kicking and screaming to the bus, onto the bus, and I would be just totally out of breath, exhausted. I’d have to lie down for an hour after I got her on the bus in the morning, and it was like that every day—every day was like that.

*Changes in attitude towards school.* Following the reading intervention, however, all eight students who previously did not like going to school showed a more positive attitude towards school. Although they all still found school challenging, they liked school more than they had in the past, and were less resistant to going to school. Several participants commented on the positive changes they saw: “She feels very good about going to school [now]” (Amber’s mother), and even though Jake had managed to maintain a positive attitude towards school, his teacher noticed a change: “He is much happier... he enjoys school. I know he does.” Ratin’s mother beamed as she commented on the change she saw in her son, “He loves going to school now.” She also mentioned that he was sick less often. Other parents also noticed a reduction in the frequency of illnesses. Skylar’s mother said she clearly saw a change: “no more sick days,” now if he wakes up in the morning and asks if it’s a school day, “it doesn’t make a difference anymore.” Colton’s mother reported that, although her son still found excuses
as to “why he shouldn't go to school . . . he goes,” and she did not “get the calls in the middle of the day to come back and get him.”

Even though Zia continued to dislike school, according to her grandmother, “This year is the first year that there was some change . . . she hates going to school, but she’s not fighting getting on the bus.” Jeremy’s mother reported that for him, “it [learning to read] did make a big difference, but . . . [school is] still a struggle.” Eric’s mother, although aware that her son also still found school challenging, felt that it was less so, “I would say it’s not the same struggle it was . . . he doesn't seem to kind of hate going.” She went on to say “It's still a fight in the morning; it’s more of a fight to get him ready, it's not so much the dreading of going to school.”

Although these students clearly disliked going to school, through the efforts of their parents and a grandparent, they all attended school on a regular basis—only two students (Jeremy and Ratin) had caused the adults to have attendance concerns. Jeremy regularly missed school; his mother reported that “At least one day a week, he couldn't go.” That changed when he started going to The Reading Room; then he regularly attended and “he never missed a day.” His mother described the change she saw in his attendance at school: “Two days in the whole winter, and usually he misses like, he doesn't make it through—he doesn't make it to school five days a week ever [in reporting data, emphasis is employed when the audio recording suggests emphasis by the speaker] until January.” Ratin’s mother made a similar comment: “He also had a lot of sick days. . . and they were legitimate . . . I think he was so kind of stressed that he would wear himself out.” She went on to say, “He would have missed easily a month of school like . . . 20 to 25 days a year.” After learning to read, however, “he didn’t miss a single day . . .
now it’s like he organizes himself, he packs his lunch in his backpack, he’s all ready to go at the door . . . he feels positive about school.” She believed he actually looked forward to going to school and that he even “loves to go to school now!”

*Change in attitude towards reading.* For all students there was a change in attitude towards reading. Most still struggled, but because of their improved reading, the majority of students enjoyed reading more than they had prior to the intervention, and would more readily pick up a book to read, read for a longer period of time, or read simply for pleasure. Seven of the nine students were described as beginning to enjoy reading—the exceptions were Skylar and Colton. And although Alyssa’s mother felt that she didn’t become an enthusiastic reader, “she feels good about that [reading]” and is starting “to do a little bit more.” Furthermore, she no longer shuns the library, a place she had in the past refused to go to. According to her mother, “We have discovered some really nice books that she enjoys, and we both enjoy, and we both laugh, and we go to Chapters, and we actually buy books. She wants to just own these books.” According to his mother, Ratin not only became a less reluctant reader, he started “wanting to read . . . that part was wonderful” because that was something he never would have done before “because it was painful.”

Amber’s mother became emotional when she described the changes she had noticed in Amber following the reading intervention. Not only was Amber reading more, “We are reading lots and lots;” she was reading more “challenging” books. Her mother reported that Amber was almost finished the Narnia series, books she felt were more difficult linguistically than the Harry Potter books, adding “[now] she always asks me, ‘How many pages can there be before I have to turn my light off.’”
Although still “daunted” by long passages, Eric, according to his mother, did start reading books with minimal text like the Captain Underpants series. As well as being “happier” about reading, Eric’s mother had seen and heard that he sometimes read to other kids, which she found “amazing.” She continued, saying that “Now he’ll read a little bit, the stuff in the bubbles . . . [now] he’s reading for pleasure as opposed to for me, or for school.” Skylar’s teacher made a similar observation about him, saying that although reading was never particularly pleasurable for him, Skylar did start reading graphic novels such as Geronimo Stilton and the Bones series, particularly because there were only a few words in the bubble to read: “The risk was low, so he jumped in. Loved it! … and all of a sudden it wasn’t just decoding because someone said I have to read it, it’s reading because we’re having fun with this.”

Several other participants referred to changes they had noticed as students became more spontaneous and more likely to self-initiate reading. Colton’s mother reported that he was now more likely to pick up something to read because he was no longer thwarted by words “he’s never seen before because he can decode them.” Zia’s grandmother had a similar observation: “I catch her now picking up the chapter books and trying to figure out the words she might know, and she is now going on the computer and typing on websites and stuff.” Zia’s classroom teacher agreed, saying that there was a marked improvement since beginning school in September, “when Zia’s attitude was ‘I don’t read,’” now, “she loves going to the library, she loves taking the books out, and she is starting to read—she is reading, so that's huge. . . . she loves books.” Jake also changed his attitude towards reading. As he progressed through the reading intervention, his mother noticed that “he wanted to read,” and even several months after he had finished at
The Reading Room (in May), he was still “really enthusiastic [and] would want to read” and write, “He would pull out all of his animal books cutting pictures out and writing about them and doing projects—on the weekends!” Jake’s teacher was also emphatic about the changes she had noticed; “I think [his attitude] changed completely. Yes, he doesn’t say I can't read that, and he wants to read. He doesn’t look at a book and think ‘Oh I'm not even going to try.’” She continued, “He stays at something longer and a couple of times … I remember him saying ‘can I keep reading?’” He still needed intensive one-on-one reading instruction which he got every day for 15 minutes, “but he will read, and he stays with a book whereas he wouldn't [before]” (Jake’s teacher). Like Jake’s mother, she also noticed a change in his attitude towards writing, “and his willingness, and he loves to write now. I mean he loves to write.”

Changes in willingness to participate in class. Participation in class was another change noted particularly by the classroom teachers. Four teachers made reference to changes they had observed in participation, as did two parents. Jeremy’s teacher felt that, with his improved ability to read, Jeremy had gained a confidence that allowed him to “persevere more and be more actively wanting to participate in activities . . . it was like opening a door for him.” Ratin’s mother, who described her son as being “very shy,” was pleased with this change she saw in him—“Oh it’s amazing. . . . by the end of the first week he’d . . . put his hand up [in class] and said something, not just said something but he put his hand up!” Alyssa too “would volunteer more often, sometimes to actually read the passages or a sentence or two, sometimes to answer questions” (Alyssa’s mother). Skylar’s teacher saw a big change in him; “He was more involved in everything, more
interested, more willing to give stuff a chance,” and had started contributing more in small group scenarios. Skylar’s mother provided a similar account:

They have oral reading for a period . . . and Skylar volunteered—another tear moment, right, because this is my boy who at the end of Grade 5 would have never, I can tell you, put up his hand to read anything, and there he was with his hand up, and wanting to read to the class.

Both Jake’s mother and teacher also noted a change in the degree to which Jake participated in the classroom. During an Identification, Placement, and Review Committee (IPRC) meeting, Jake’s mother was clearly surprised by this change in Jake—“I was really glad to hear, but I was really shocked to hear, that Jake gets up and speaks in front of the class and puts his hand up and wants to participate.” His classroom teacher confirmed: “He certainly has come a long way, and he raises his hand. He follows the routines of the class, he participates in the lesson.” She continued, “he is much more confident and willing to participate.”

All students made gains in reading achievement and all but one (Zia) were reported to have made gains in writing as well. Even with gains in reading, some students continued to struggle, but a positive change in attitude towards reading was observed for all students. Furthermore, with the exception of Alyssa, all students were reported as feeling better about going to school. The majority of students also started to participate more in the classroom, either by contributing more in group work, answering questions more frequently, or by actually volunteering to read.

**Behavioural/social changes.** Behavioural/social changes include changes in attention (less avoidance and more on-task behaviour) and changes in behaviour such as
improved social competence and fewer inappropriate behaviours. Changes in avoidance tactics include aspects such as a reduction in fidgeting, fewer washroom or drink break requests, and no more visible shut down responses such as those displayed by several of the participants (e.g., Amber and Colton). Improved social competence was seen in more frequent and improved interactions with their peers or siblings, and a reduction in inappropriate behaviour was evidenced by fewer disruptive behaviours in the classroom, fewer nuisance behaviours at home, and overall improved compliance in both environments. Although four parents revealed that their children had, on occasion, acted aggressively at either home or at school (Zia, Eric, Skylar, and Jake), only Jake’s mother said that he was less aggressive following the reading intervention.

**Changes in attention.** This third dimension consists of a reported change in avoidance behaviours and attention or on-task behaviour. Avoidance behaviour is deliberate distraction from the task at hand, often involving something that physically takes the person away from the task. Attention or on-task behaviour is any behaviour that is focused on the task, whether it be listening to a story, reading a book, preparing a story map, writing in a journal, or participating in a discussion or group activity. According to the participating adults, all of the nine students had, in the past, experienced difficulties starting tasks, paying attention, and staying on task, when attempting tasks they found challenging. Alyssa, Eric, Amber, and Jake were described as having a short attention span while Ratin and Zia did everything possible to avoid the task, especially if it was related to reading or writing. Zia was described as a “runner,” sometimes hiding, and sometimes leaving the school when asked to do something she did not want to do. In
some cases, students (Colton, Jeremy, and Skylar) were described as both inattentive and as avoiding difficult or undesirable tasks.

*Changes in avoidance.* Homework was an area that several parents described as a regular and ongoing struggle in terms of task avoidance. Jake, for example, had hated doing homework, and because she found it such an ongoing struggle, his mother would sometimes recruit the help of Jake’s father or her sister to help him get through his weekly homework. Jeremy always fought when it was time for homework—his mother reported that “it’s just [like] pulling teeth to do homework.” Ratin was another student who did everything possible to avoid beginning his homework. His mother reported that “he’d sit down to do homework and he’d be obsessed with what pencil he was going to use, it wasn’t sharp enough and you’d have to get the right sharpener, and he didn’t have the right eraser.” Before the reading intervention, Skylar, according to his mother, did everything possible to avoid homework, and she chuckled as she said: “No, let’s not sugarcoat this—no, he was never on task, and it’s a struggle for him. He didn’t want to do it [the homework], and he did everything he could to avoid it.” She went on to say, “He never acted out, while he would sit at the table after school knowing that he wasn’t getting up until his homework was done, but he would sit at that table for two hours.” Two students, Colton and Amber, avoided work by putting their heads on their desks, Colton before he started an undesirable or challenging task, and Amber when she became exhausted from the strain of the task.

Following the intervention, four students (Amber, Colton, Jake, and Skylar), according to their parents and teachers, showed less avoidance to previously avoided tasks. For example, Colton’s classroom teacher described a change she saw in him:
previous to the intervention, or what she called the “turnaround point,” he would say, “‘I don’t get it,’ but he hadn’t listened to anything I said for the last hour.” He would simply put up a barrier and say, “‘I don’t get it, I can’t do it, I don’t get it’ . . . it was just too much and he was not open to even trying to understand it.” In contrast, when the “new Colton emerged,” he would more likely listen and ask for help if he needed it, and according to his teacher, other avoidance behaviours had “disappeared” and now “he was engaged.” Jake’s mother described her son similarly, referring to the change she had noticed, saying that in the past he was “a lot more disruptive . . . and avoidance and fidgety, and stuff like that.” In contrast, following the intervention at The Reading Room, she felt there was “a total change in the classroom;” the avoidance tactics he once used, where he would say “‘I can’t do it . . . I got to go to the bathroom,’” disappeared. Parents also reported less of a struggle with homework. Skylar’s mother reported that there were no more tears, he would simply unpack his bag and sometimes, before she came home from work, he would have “got his homework done and [be] sitting for me at the dining room table waiting for me to check.”

Changes in on-task behaviour/attention. Parents and teachers consistently reported improvements in attention and on-task behaviours—six of the nine students in this study demonstrated improvements in this area. Jake’s classroom teacher was surprised at how early she saw the change, “It did not take long to see him focus more and stay on task more.” She also believed that, because he was now more able to focus and attend to assigned tasks, learning to read had mitigated some of the effects of his ADHD: “that intervention definitely helped some of that. . . . He still has ADHD—un-medicated, but the difference is amazing.”
Several teachers noted a change in persistence, and as Zia’s teacher suggested, “It’s true of Zia, and I think true of all youngsters—as they develop their ability to read, they’re able to sustain interest and be much more involved, in any assignment, in any activity that’s going.” Zia’s teacher went on to say that she felt this change extended beyond reading and was evident “right across the curriculum for Zia.” Similarly, Amber’s teacher commented on a change she had clearly noted with Amber—her “stamina” had improved, and she was “putting her head on her desk less,” something she did regularly previous to intervention; “when she was just done, when . . . she had no more left to give, she couldn’t think anymore.” The same change was evident when it came to homework: previously Amber’s parents had asked the teacher not to send too much homework home because “she is dead, she is really at her end when she gets home. She doesn’t have any more energy for that, but now . . . she’ll take it home, and just keep working at it” (Amber’s teacher). Smiling, she recalled that on occasion, she would have to ask Amber to stop working:

   It’s just amazing how she will just keep . . . her task now, her feeling is connected to finishing. Finish, and not just finish, but do as much as I know I have—now that I know how to say it. And now that I have the energy to say it—I want more time to say it. Like, it’s just the—it’s completely different than, than she was when she first came into Grade 2.

   

Changes in behaviour. During and following the reading intervention, participants also noticed changes in behaviour; changes that occurred in both the school and home environments. These changes are described as positive changes in social
competence and as reductions in inappropriate or concerning behaviours. In one case, a parent also described a change in aggressive behaviour.

*Changes in social competence.* Five of the nine students showed improvements in their social competence. The teacher who described Amber had taught in her classroom for three successive years and for the first two years she described Amber as being one of the students who clung to her during recess. However, subsequent to the reading intervention, Amber’s teacher saw a distinct change: “This is the first year she doesn’t walk the track as much with me. She's off, engaged in play with different students with different things.” Skylar’s teacher also noticed a change in his social interactions: “Early in the year he would get so angry. He would just shut down and look like he was furious. . . . by the end of the year, [he was] articulating how he felt, why he did something, what he was thinking.” She believed that, previous to the intervention, “He was easily offended [and] made assumptions that were inaccurate” but that changed, “and the better he felt about himself the more tolerant he became.”

*Changes in inappropriate behaviour.* The inappropriate behaviour of seven students was described by the adult participants as having decreased following the reading intervention—not only was there a reduction in inappropriate behaviour, there was also an increase in desirable behaviours such as compliance and cooperation. Zia’s grandmother noticed greater compliance and self-discipline in Zia since she began the reading intervention. For example, Zia started spontaneously cleaning up her toys; there was “no asking, not having to stand there, okay the lego people go in this one, the lego animals go in this bin . . . Because that’s the way it was before, you had to tell her specifically” (Zia’s grandmother).
Although his behaviour continued to be somewhat problematic, Eric’s mother believed that his “markedly [participant emphasis] better behaviour coincided with when he seemed to have made a big leap in reading;” she added, “I can definitely see that reading and behaviour would be linked for him.” Jake’s teacher was enthusiastic about the change she saw in Jake, which she too attributed to his improved reading ability:

In school definitely the reading, yeah getting those skills and that has made a big difference. Now he is still impulsive . . . he still will occasionally spin on the floor, not so much when we are reading a book if there is a discussion going on but . . . it’s dramatic. It’s just incredible, the difference. I really enjoy having him in the class. At the beginning of the year, last year it was like, oh my goodness, as much as I liked him, it was just every day it was so much just trying to keep him focused, and he blurted out all the time, and would say inappropriate things, and it never happens anymore.

Jake was also better able to follow routines, was more compliant, and in general, was a more able student:

He hangs his backpack up, he hangs things up . . . and he raises his hand. He follows the routines of the class, he participates in the lesson, his work is much neater, there is no doodling all over the page anymore, so just his work habits in general have really improved.

Because she had taught Jake for two years (prior to and following the reading intervention), Jake’s teacher could clearly see the change, something she described as being “a huge difference.”
Although Eric, Skylar, Jake, and Zia were described as being aggressive on occasion prior to the intervention, only Jake’s mother commented on a reduction she had noticed in his aggression. Jake’s situation was aggravated with his concomitant Asperger’s Syndrome; even though Jake generally enjoyed school, he often didn’t want to go because of the social difficulties he faced. Before the reading intervention, he frequently resolved conflicts with aggressive actions, but subsequent to the intervention, she noticed a clear change saying that this year, “He’s . . . verbally he’s fine there, and he’s not aggressive . . . since, like I said, after The Reading Room, a total change in the classroom.”

Only one student, Alyssa, did not display any change in the behavioural/social category. According to both her mother and classroom teacher, Alyssa had always been attentive, and did not demonstrate any behaviour concerns. The other eight students however, did demonstrate change in at least one aspect; they either became more attentive or had fewer episodes of inappropriate behaviour. In four of the eight cases (Amber, Colton, Jake, and Skylar), there were changes in both attention and inappropriate or concerning behaviours.

**Psychological/emotional changes.** Psychological/emotional changes include those changes related to mental health and empowerment. Four aspects of mental health were identified: general self-efficacy (often described as confidence by the participants), self-efficacy for academic learning, self-esteem, and disposition. General self-efficacy was described primarily through descriptions of an evident change in confidence that extended beyond the classroom, but was also indicated through examples of positive risk-taking or willingness to take a chance. Self-efficacy for learning was revealed as the
students started to think of themselves as readers and writers, and often initiated or persisted at reading tasks they had previously resisted. Change in disposition was illustrated by comments describing a “happier” student who often smiled more and, in cases where there was pre-existing anxiety or depression, both were described as having improved following the reading intervention. Empowerment was indicated by enhanced independence and self-advocacy where students took greater initiative for their own care and well-being and started advocating for themselves in general and for their academic learning needs.

**Changes in mental health.** For all the students their improved reading ability was accompanied by an improvement in mental health, as described by parents and teachers alike. Although there was variation in the manifestation of these changes, change was ubiquitous. The two areas of mental health most frequently identified as having changed were confidence and self-perception, specifically called self-efficacy and self-esteem here. Several participants also referred to changes they had noticed in mood and energy level, as well as a general improvement in mental health and a reduction in anxiety and depression.

**Changes in general self-efficacy.** All students were described as being more confident following the intervention. According to her mother, not being able to read had begun to undermine Amber’s confidence. Before beginning the intervention, she noticed that Amber “started talking about having stomachaches on the carpet . . . which is the learning place, she would say she had a stomachache, and she started not being herself, just being unhappy, grumpy, annoyed, unsure of herself, and loss of confidence.”
Parents and teachers frequently mentioned confidence as having significantly changed following the reading intervention; even Alyssa who was not a very outspoken student, was described by her teacher as being more confident in the classroom because “it was obvious that she was feeling more comfortable and more sure of what she was doing.” Skylar’s mother happily announced: “I’d just like to say Skylar’s confidence and self-esteem are through the roof now!” Skylar’s teacher also noticed the change, describing him as “clearly more confident, more outgoing. He would get up and do a speech, do a presentation, didn’t blink an eye, he would not have done that earlier in the school year.” She even started to call on him to help other kids or the class when there were questions about decoding—“he knew all the little rules about, you know, how to decode … so he would show the kids over and over how to dissect that word to get to the base word and yeah, it was amazing.” Colton’s mother described her son in similar terms: “He has more self-confidence; he is much more outgoing.” Colton’s teacher agreed and was convinced that his success in reading was responsible for his increase in confidence: “absolutely—it gave him confidence.”

Jeremy’s mother felt his improved level of confidence was also “amazing” especially since it evolved in the short period of time that he attended The Reading Room. She described the change: “It was before [the reading intervention] that … in school he was less confident, trying to avoid doing things . . . then as he was attending this [reading] program, and after, he became a much better student in class in general.” She went on to say that his classroom teacher had also noticed the change. At school he was evidently “just so much more confident and forthcoming and willing to be involved and you know that's amazing because you can see the difference.” Like Colton’s teacher,
Jeremy’s classroom teacher also felt that his reading ability and confidence were closely linked: “as his reading improved, so did his confidence in tackling other tasks.” She went on to say that he had “more confidence in a bunch of [areas] . . . generally with school. He was more positive, more willing to give it a little bit extra and apply himself more.”

Eric’s mother recognized his improved confidence; he now read to younger children in the afterschool program, something he wouldn’t have had the confidence to do before: “that was amazing to me to see him reading to other people.” She not only attributed the change in confidence to his improved reading ability, but she felt it was also due, in part at least, to how he was being taught to read: “It was being with the teacher, and with The Reading Room teachers who valued him and gave him confidence every day, and nurtured his psyche and his intellect.”

Zia’s grandmother also noticed a change in the confidence of her granddaughter and felt the positive effects of this change extended beyond school:

confidence is the biggest thing because it isn't just about confidence in reading and school work, it goes into other things like, it’s like maybe, maybe, I can do this, or maybe I will try … and I'm seeing that with Zia too that she’s willing to try things.

She continued: “I see her trying new things . . . putting on makeup, and trying to just make herself I think feel better, and put on her earrings and do things like that she would never do that before . . . never. The confidence is a big thing.” Even socially, Zia was starting to take risks; her grandmother recounted: “we were outside one of these nicer days . . . and saw a couple of boys in the common area and [she] went up and said, ‘Oh hi Nick . . . do you want to play together when I'm done’? Zia never says that.”
Jake’s mother noticed similar risk taking in her son; after learning to read, he started to have the confidence to dress differently—to dress the way he wanted to by “wearing a muscle shirt which he would have never had anything to do with two years ago, and his jean jacket that’s cut off, his dirty old Raptors baseball hat . . . backwards, and his like pilot sunglasses.” Jake’s teacher agreed saying, “He is much more confident.”

Like Zia’s grandmother and Jake’s mother, Ratin’s mother noticed an improvement in her son’s general self-efficacy that extended beyond the classroom. Ratin started participating in sports, something he had not done before even though she felt “he’s a good athlete.” He joined the cross country team and the floor hockey team, “things he would never have considered before” (Ratin’s mother). His confidence in sports continued—after joining hockey, he decided he would try out for a competitive team. Once he made that competitive team, he decided he would try out for a competitive soccer team—which he also made. She laughed and added, “He was the last person I would ever imagine would put himself out there that way, you know, and being evaluated and being . . . some people are going to make it and some people aren’t, you know.” He also became involved in music and now plays the clarinet. As she described it, these were opportunities that he chose, “he didn’t have to do it; it was completely voluntary.” For Ratin’s mother, this was a very positive change, “I’m really excited about it. That’s a whole new aspect and then outside of school he’s a completely different guy than he used to be before. . . . I think a huge part of it is just his self-confidence.” She felt that learning to read went beyond the ability to read, it had an important impact on how Ratin now faced challenges,
I think, you know, when you have that experience where . . . you’ve only known it [reading] to be a difficulty and a challenge and a frustration . . . I think the experience of taking something that had always been hard and then you’ve mastered it and then it’s opened up a whole bunch of other doors; you realize that it can be that way for other things.

*Changes in self-efficacy for academic learning.* In addition to improved general self-efficacy, self-efficacy for academic learning also improved, eight of the nine students were reported as being more efficacious in terms of learning. For example, Colton demonstrated improved self-efficacy when, with his gains in reading, his spelling also improved to the extent where he felt sufficiently confident in his ability to offer help to his older sister when she was having difficulty spelling some words. Colton’s teacher felt that it was important for him to experience success, and to believe he could succeed; he “needed some success to see that . . . once I get the help, I’ll be able to do this. Whereas before, it was like, with the help, without the help, well . . . I can’t do it, so don’t waste your time on me.” She felt that he now believed that he could read—that he could actually pick a book he would be able to read. Skylar’s mother also believed that his self-efficacy for reading had improved: he started helping his sister decode words she could not read and he participated more in class—something she attributed to his improved self-efficacy. In the classroom Skylar’s teacher noticed a clear change: “Before he would have felt that he couldn’t contribute as much or he would be afraid to be judged so we wouldn’t get much out of him and . . . by March, April he was leading the way in his groups.”
Most students started thinking of themselves differently—as readers now, and as being capable; their self-efficacy for reading had clearly improved. Amber’s teacher felt that when she began experiencing success, she realized “that there were other ways to learn” and that she could read. Alyssa’s mother was surprised at how quickly she saw a change in Alyssa’s self-efficacy towards reading. She recounted a conversation she had with Alyssa on the way home, one week into the reading intervention:

“It was literally the first week of her intervention, and she was just in the back seat and full of laughs and giggles, saying, ‘Mom I can read now.’ And I said hey Alyssa that’s awesome; she says, ‘You know mom, I used to fake read. I don’t have to fake read anymore. I can actually read.’ … she saw herself as a reader at that stage already because she knew she wasn’t faking it—she was actually doing it.

Jake’s teacher commented on a monumental change she saw in the classroom, not only did he readily read out loud when asked, but she recounts: “We had an advent mass the other night—he read at church in front of the parents. Tomorrow we have a mass where we’re with two other schools, and there are probably close to 800 kids—he’s reading tomorrow.” She felt he was beginning to believe he was capable of learning, and enjoyed being “a student who could learn;” he started to believe: “I can do this.”

Changes in self-esteem. Eight of the nine students demonstrated positive changes in self-esteem. Self-esteem is positive or negative self-appraisal or evaluation and can also be considered as self-worth. Jeremy’s mother felt that, as well as confidence, self-esteem “can’t be overestimated.” Skylar’s mother was thrilled with the improvements in self-esteem she saw evident in her son, saying also, in addition to confidence, his self-
esteem was “through the roof now.” In contrast, “he didn’t feel good about himself before The Reading Room, one little iota. He thought he was dumb.” However, since the end of the July [when] he went to The Reading Room, and actually was catching on to reading, he has called himself dumb probably three times since then, which it was [on] a daily basis [before]. He was calling himself dumb for years. … and money well spent that’s what I've got to say, it's unbelievable to see the self-esteem.

Colton’s mother mentioned that her son had stopped calling himself “stupid” as well, and went on to say, “I think the self-esteem has contributed to the improved behaviour, and the self-esteem I can say comes 100% from the ability to read.”

Eric’s mother reported that, he too “certainly feels better about himself [now] that he can read,” and Zia’s grandmother described Zia as being “proud of herself” for the gains she had made in reading. Jake’s mother felt that he had made huge gains in his reading and writing ability due to improved self-esteem; “He excelled—like he went from January till May, and his self-esteem went like from zero to 100 just like that. . . . now he is up talking in front of the class, he’s reading books.” She reiterated, “it was good to see his little self-esteem just sky-rocket.”

*Changes in disposition.* Eight of the nine students were described as having an improved disposition. Parents commented on their children being happier, more positive, and having more energy. Jeremy was “definitely happier” (Jeremy’s mother), and his teacher described him as “more positive.” Ratin’s mother felt that, because of the frustrations and challenges he had with reading in the past, he was becoming “kind of just a sad person” but that changed when he started to succeed with reading. Skylar’s teacher
felt he became “much, much more light-hearted” while Jake’s teacher described him as being “much happier.” Other students including Amber, Colton, Jeremy, Ratin, and Zia were also described by their parents and teachers as being less anxious following the intervention.

Amber’s mother described the immediate and sustained change she noticed in her daughter: “Her disposition changed . . . just overnight really . . . there was something about the ways in which, that she had success immediately, that the activities they were doing were very short, very targeted, extremely doable, and she sensed immediately her progress.” She continued, “I really have noticed a personality change. . . . as a little child, always very sunny, happy . . . but then we had this real . . . cloud, and then seeing that really change, as a parent you are just overjoyed.” Amber’s teacher confirmed, “Two years ago she was sad,” but that has changed: “Amber is so happy now. She’s just happy. It doesn't matter, she’s happy.” She went on to say, “She’s got so much energy now;” instead of putting all her energy into trying to read, “that energy, now she can give that out.”

Colton’s teacher also noted a clear change in his disposition; he was “grumpy right from the get go . . . until he started having success,” and that is when she observed that “coming in, he was happy.” Prior to the intervention, she said that he “hated” school and that “every day, grumpy Colton was there.” Following the intervention, “he was just a totally different kid. . . . It was phenomenal—a complete turnaround. . . . he just came to school, and was a different . . . it was like someone had . . . an alien had abducted the old Colton, and the new one was here.” She added that even other teachers and students had noticed the change in Colton: “it was amazing [participant emphasis], people
[couldn’t] believe it!” She smiled as she recalled telling Colton, “I like this Colton. I hope the aliens never bring the old Colton back and this guy stays here.” He had enjoyed her comment: “It was awesome, he was smiling. But I mean to even get a smile out of him before then would have been almost impossible?”

Two students, Alyssa and Zia, were reported to have had pre-existing concerns of anxiety and depression respectively; both showed improvements following the intervention. Once her reading came easier, Alyssa’s teacher noticed “a marked difference” or absence of what she called “anxious behaviour.” She also noted that Alyssa was volunteering more frequently in the class, which she felt could be attributed to “mostly a lack of anxiety.” Zia’s grandmother felt that her depression and attempt at suicide were directly related to the repeated and sustained failures Zia had experienced throughout school. At the end of Grade 1 Zia did not recognize the letters of the alphabet, or write her own name, or write anything for that matter. At the end of Grade 2 she still did not know the alphabet, or how to read. In addition, Zia had “severe fine motor issues,” making writing even more challenging, “so she didn't do it.” As a consequence, “she lost her snack, then she lost her recess, and the punishment was like that, not mean, but it was too much failure. She had already failed at everything.” Because of this ongoing failure, Zia had a “nervous breakdown” and missed five months of school (Zia’s grandmother). According to her grandmother, the successes she started to experience at The Reading Room had a profound impact on Zia’s life, “I don’t know if my granddaughter would be, even be alive—if we didn't have something change. I mean she, she’s—how, how many eight year olds want to kill themselves?”
Changes in mental health were frequently and strongly supported by the observations of the adults in the study. Not only did participants, particularly the parents, speak of the changes they had noticed in the mental health of their children, they did so with vehemence. All nine students were reported to have changed and improved in at least two of the dimensions of mental health, and four (Amber, Colton, Jeremy, and Zia) changed in all four dimensions of general self-efficacy or confidence, self-efficacy for academic learning, self-esteem, and disposition.

**Empowerment.** The final dimension that emerged from the data is empowerment—something that was identified as being relevant for seven of the nine students. This dimension encompasses independence and self-advocacy. Not all of the seven students were affected in the same way, but all benefitted in at least one aspect.

Ratin’s mother poignantly talked about empowerment and independence when she likened being able to read to learning how to drive a car—she said:

it’s like when people work really hard at figuring out, you know, how to drive a car and . . . once you learn how to drive that car you can go anywhere . . . you can go get your own groceries, you’re not dependent on anybody, you can drive to Prince Edward Island if you feel like it. You can, you know, you can go where you please when you want, and I think reading is the same thing. You can read for your own pleasure when you feel like it, you can look up information because you need it, you can understand the math question because you can read all the instructions.

Colton’s mother passionately spoke about the empowerment she felt her son had gained from learning to read, “Knowledge is power, right? . . . power to learn on his own,
to do his own stuff and sort of an independence . . . he went from this kid who was powerless to having some control over his academic success; whereas before, he didn’t.” Through learning to read she felt he had gained in “confidence, independence, and power.”

Changes in independence. Participants described how students were becoming more independent, both in the classroom and at home. Jake’s teacher also saw him making great strides at becoming more independent in the classroom: “[now] he takes his own agenda out of his bag which last year it was done for him,” and although it is not consistent yet, Jake “finally” takes his “outdoor shoes off, and he puts the indoor shoes on without me telling him.” In learning, there was also a change—Jake no longer felt he had to go to the back of the classroom to get help from the EA (Educational Assistant), instead he stayed at his desk and used the strategies he had learned at The Reading Room. Jake’s teacher felt that becoming a reader had a huge effect on Jake: “It's helped him a lot. He’s become much more responsible for himself.” Several parents had noticed that their children had started to try to tackle things on their own whereas in the past they would have immediately asked for help. This was the case for both Jake and Jeremy. Jake’s mother noticed that, while on the computer or following instructions, Jake would try “to figure it out on his own.”

According to Amber’s mother, once she learned to read, and when that translated into her writing, “The whole world has opened up for her.” Both Amber’s mother and teacher described how important reading and, subsequently, writing, were for Amber because now she had the words and the ability to express her thoughts and complex ideas. Amber’s ability to talk about stories has always been really advanced; “while she was
able to do that quite well [orally] before she could read . . . now she has that thirst. So, 
those worlds become very intimate in ways that they weren't before” (Amber’s mother). 

Her classroom teacher feels that the greatest challenge Amber now faces is having 
足够时间把一切写在纸上。她还说，Amber开始独立工作，不再需要去教室后面的桌子

Neither does she need a scribe as she became more able to formulate her own 
thoughts and get them down on paper: “She doesn't have to tell anybody her story, her 
message, because she’s got it—she can get it out” (Amber’s teacher). Both Skylar and 
Colton had also needed a scribe prior to the reading intervention. At the beginning of the 
year scribing would have been “a way of life” for Skylar, but that changed, “He very 
quickly grew to the point where to him that was not a strategy to help him, that it was an 
embarrassment—I don’t need you” (Skylar’s teacher). The same was true for Colton: 

“At home, Jeremy, Jake, and Zia started to be more independent—they started 
doing things such as brushing their own teeth, brushing and washing their own hair, 
showering, and picking their own clothes and getting dressed—things according to the 
mothers and grandmother they never did before. Jeremy’s mother reported that her son 
was becoming more responsible for his own care at home, he started “looking after his 
own teeth now . . . brushing his hair, and he takes showers . . . washes his own hair.” She 
added, “It is amazing, and . . . looking after his own teeth now, and everything because 
that's a biggie.” Zia was also starting to become more independent—she started brushing 
her teeth by herself and cleaning up anything she had been using or playing with. Zia’s
grandmother also saw that Zia was taking more initiative socially, becoming more independent. Now she is “More willing to step up and say, ‘hey do you want to play?’” She’s going off to the park on her own. You know—she is doing that,” again, something she would not have done in the past. Jake’s mother also felt that because of the confidence he was developing, he was becoming more independent and “participating more and more at home and at school;” he had started to pick out his own clothes, and would occasionally brush his teeth without prompting.

Changes in self-advocacy. Several participants also referred to changes in self-advocacy they could identify in some students. Students were advocating for themselves more socially and for their academic needs. Amber’s mother noticed changes in how Amber interacted socially, saying that in the past she “just went with whoever was there, not really making conscious choices about who she was going to play with,” now however, “she’s quite deliberate about choosing friends to play with.” Both Amber and Jake, because they no longer consistently need the help they had needed in the past, now asked for it when necessary. Skylar’s teacher noticed a similar change, “I think he just really started to advocate for himself. I'm a big one on that, I think that once you’ve learned how you learn best, you really need to take responsibility and make sure you get what you need.” Colton’s teacher also noticed a distinct change in him once he became a more able reader: “The Colton before . . . he wouldn’t even ask for help. That was the difference, it was like ‘I’m not doing it.’” Following the intervention however, he would say,
‘I can do this, I just need your help with the reading part,’ or, ‘I read that one perfectly fine but I need help with this one.’ And, he’ll put his hand up and say, ‘Can you come and read this for me?’

Colton’s teacher reported this was one of the biggest and most important changes she had noticed in Colton: “that was a huge difference. A big turnaround—He was asking for help, seeking help, wanting to be successful. . . . I mean the self-advocacy is really the. . . that’s the main difference—‘I’m going to advocate for myself.’”

Several parents and several teachers specifically spoke to how the students were now empowered with their reading ability. Zia’s grandmother described a scenario where she saw Zia empowered in ways she had not been before, “One day she came to the park and there was . . . lined up in a row some boys [who] started picking on her. She didn’t run, and she didn’t cry. . . . she stayed.” Zia’s grandmother continued, “She said ‘I don’t like what you are doing so I’m going to ignore you,’ and then she just walked away. . . . That was like wow—for her to speak up. . . . that was a big deal.” Alyssa’s mother also felt empowerment was a key change; she felt that because Alyssa eventually experienced success at something that was particularly challenging for her, something that was “so closely tied to her self-esteem,” she was empowered. She added emotionally: “You can't. . . . no amount of money can pay for that. . . .—absolutely empowerment, yeah.”

Empowerment meant different things for different students, but either showed as increased independence by being more able to self-advocate or a combination of the two. Seven of the nine students were considered to be more independent than they had been prior to the reading intervention, the two exceptions being Alyssa and Eric. Five students, Amber, Colton, Jake, Skylar, and Zia, demonstrated change in both dimensions of
independence and self-advocacy. All students who self-advocated were also described as being more independent; self-advocacy never was reported for these students without independence.

**Changes as Observed by the Reading Instructors over the Years**

The nine students in this study present a rich account of changes that have occurred during and following the intensive reading intervention. Because both reading instructors, Allyson and Jenelle, had worked at The Reading Room for over 10 years, their accounts added a more general, long-term, and broader perspective of the changes that occur when reading improves. Although a third instructor worked at The Reading Room, she had less experience and only worked part time and was therefore, not interviewed in this study. The same domains, dimensions, and elements were used to report the instructors’ data. The two interviews with them were analyzed deductively following the parent and classroom teacher data analysis, using the codes derived from those data.

**Cognitive/Learning Changes.** Both reading instructors described how they saw the reading ability of students evolve as they progressed through the intervention. They also referred to changes in attitude towards reading they had noticed, as well as improved participation in the classroom reported to them by parents and teachers. Jenelle considered the first 15 to 20 hours (that is three to four weeks) of intervention as being an “effortful process” during which students learned “to trust what they [were] being taught in terms of the code of language.” Allyson expressed a similar idea, saying that she would only begin to see real change in their ability to read when students began to “understand that it really works” and that they could “stop guessing” and then they would
“stop sort of just trying anything desperately.” To get to this point, students needed a lot of support, encouragement, and experiences of success.

Both instructors described parents as often being surprised at how soon they saw their children begin to read and, because their child’s reading difficulties had been an ongoing concern, this change had an emotional impact on parents: “They are hugely relieved . . . parents cry . . . [they had started to] think this is not going to happen for my child, they’ve been at it a long time and finally they see that it's starting to all fall in place” (Allyson). As well as changes in reading ability, Allyson said that according to classroom teachers, the success in reading in English in some cases also transferred to reading in French. Furthermore, Allyson believed that students with additional challenges in perhaps writing or math, “got the energy [to] focus on some of these other concerns,” once they became more accomplished readers. Although the instructors reported that almost all students made substantive gains in reading, most continued to struggle, but a few went from being “below average readers” to being “above average readers” and some “managed to make that sort of leap and they have just become, avid independent readers” (Allyson).

The reading instructors also reported changes they had noticed in students’ attitude towards reading as they become more able readers. Jenelle described this evolution: “you certainly see a decrease in fear,” and about mid-way through, students would “start to relax” and by the end of the intervention, “most students do a 180 degree turn, and students, not only will they read, they will read freely and willingly, not just for me, but for parents.” Because students often came in feeling defeated, they initially needed external rewards and positive reinforcement. Jenelle referred to them as the “two-
“you realize that the child never asked for a sticker or you forgot to volunteer any
rewards and no one has mentioned it and they have left quite happy . . . . suddenly those
external rewards just fall away.” Jenelle continued: “you get interest;” they would offer to
go to the instructor’s office with her to see the titles and want to choose a book; “you take
them up to the bathroom, and on the way back they want to read things on the walls, on
the posters, and all the way back down.” Students become more enthusiastic readers.
Jenelle recalled one boy who started to take a book to football practice, and this was a
boy “who really had not, never read a book, really, in his life.”

Through conversations with classroom teachers and parents, they also heard
reports of increased participation at school. According to Allyson, teachers commented
on the changes they saw in the classroom: “She’s putting her hand up, volunteering’’” and
students will “volunteer to read out loud in school,” or sometimes they “take part in the
school play, or something like that.” Jenelle received calls and messages from teachers
saying things like “This child has raised his hand in class,” and “he is volunteering
answers for the first time all year.”

Jenelle described what she viewed as changes that were clearly evident at the end
of the intervention: “I see kids who . . . they want to bring their siblings in because they
think it’s so much fun. I see kids . . . who say ‘can we stay longer mom?’” Sometimes
students are so reticent about leaving the intervention, they have to be weaned off,
gradually reducing the number of days per week that they attend, before they return full
time to their regular classroom.
Behavioural/social changes. Allyson and Jenelle also referred to changes they noticed over the years in the on-task behaviour of students, as well as what they had heard from teachers and parents about behaviour changes in the classroom. Especially when students start to realize that the system of decoding taught at The Reading Room really does work, they start to focus more, and “they will settle down and attend to what's on the page, and they will attend to the sounds that are there and they would work their way across and decode it” (Allyson). When asked if they notice any change in behaviour, Jenelle responded, “Absolutely there’s behavioural changes. . . . I know it’s apparent in the classroom, I’ve had more than one . . . many teachers comment on that.” She described how behavioural changes are evident in the sessions at The Reading Room as well, “There’s far more cooperation, there’s far more willingness; there’s far more . . . less balking at whatever the components of the session are going to be. It's not like ‘oh, do we have to do spelling?’ . . . you get cooperation.”

Psychological/emotional changes. The reading instructors talked about confidence and improved self-efficacy for reading as being the dominant changes in the mental health of students. Allyson felt the biggest change in students was “the growth in confidence . . . they believe in themselves, they believe in their ability . . . if they come across a word they don't know, [they] take it apart and get on with it.” Jenelle felt it was confidence and success that led to the changes they saw in the students: “I think it’s the typical: (a) confidence levels have increased, [and] (b) they’ve had success.”

According to Allyson and Jenelle, self-efficacy for reading changes for virtually all students. Allyson said what she found most rewarding about teaching reading to struggling readers was their change in self-efficacy: “You see those kids click over into ‘I
can get this! I can do this!’ Right? And when . . . you tell them to do ten words and they say ‘I want to do fifty.’” She went on to say that students become “much more, self-confident . . . they are really proud of themselves; sometimes, a kid may say ‘I am a good reader, I am a good speller.’” Allyson described one of the common indicators that students were making gains in self-efficacy:

Once they've got their confidence up, then it will be like, ‘I will start,’ or if there are five sentences on a page, and you say, you pick three sentences to read, you start to notice whether they are picking the three shortest or whether they'll pick the three longest, or sometimes they will say I will read all of them—and it's [at] that point that I know that they have come to believe in themselves in terms of what they have . . . what their abilities are.

There were also changes in disposition: Allyson was “surprised” at how early in the intervention, after a week or two, when they were still learning letters, that parents would report “how much happier their kid was.” She elaborated—some parents would say, “I didn't realise how much this was bothering him,” or “I hadn't realised how, you know, just how unhappy she was at school.” Jenelle agreed, describing the change as being a weight lifted from these students; “I mean . . . you just see carefree people . . . I wouldn’t say it happens all the time, but . . . it’s like they've been lightened . . . these are not as burdened people as when they came through the door.” She added that by the end of the intervention, “they are different people . . . they joke, they laugh . . . they will be thrilled to know their name is going up on the back wall [of program graduates]. Yeah, they are just happy people.”
Both reading instructors referred to learning to read and learning how to decode unfamiliar words as being empowering for the students. Allyson compared the decoding strategies to tools, saying, “You have to give them a whole tool box so that they can start to work; it is very empowering.” They spend a lot of time talking to the students about how they can “empower themselves” by learning the strategies: “By learning strategies for splitting multi-syllable words, they do not have to be defeated by words. You know, that they can conquer them; they don't have to guess; they don't have to give up.” She felt that students “start to perceive [of] themselves as someone who's got some powers over those words to try and figure them out and spell them . . . feeling much more empowered.” Jenelle added that as students evolve through the intervention, they become much less “guarded” and are able to start advocating for themselves and are “willing to show you what they don’t understand and what they don’t get.”

Generally speaking, when students go to The Reading Room, they have “already absorbed the fact that they are clearly behind their peers; they are clearly not coping” (Jenelle). Allyson concurred, but added that the biggest behavioural and emotional changes she has seen in students were not necessarily related to the biggest changes in reading ability and that “it is not always the worst reader who is most damaged by it [the inability to read].” She went on to say that she believes children are affected differently, but that “all kids feel it, there is no doubt that all kids feel it, because it's associated with shame and so forth,” but “some kids just have fewer resources and their response to it is to give up and call themselves stupid, you know, ‘I am stupid I can't do this.’” Allyson said that, by the time they graduate from the intervention, they “all . . . say, ‘I am smart I can read.’” In Allyson’s view, the students who had been the most negative about
themselves, even if they did not make the biggest gains, “made the biggest changes in terms of their attitude and belief in themselves . . . which again is huge and going to be carried over to something else.” She continued, “those are the ones that you hear, from the parents and from the school, that now they are trying and they are just doing better all across—they have re-invested in believing that they can learn.”

**Summary**

The observations of the reading instructors over the years of instructing students with reading disabilities were consistent with the reports about the nine students who were described by their parents and classroom teachers in interviews and focus groups. Allyson and Jenelle described cognitive/learning changes they had seen, especially as they related to reading; gains that vary with each student, both in the level of improvement and in the nature of that improvement. The instructors also talked about changes in attitude, particularly towards reading and a greater willingness by students to participate in their regular classroom. Behavioural/social changes were also mentioned; attention improves, inappropriate behaviour decreases, and students become more cooperative and engaged. As with the data regarding the nine participants, the reading instructors emphasized psychological/emotional changes they had noticed over the years. General self-efficacy, or confidence, and improved self-efficacy for academic learning dominated the discussions. The benefits for students learning to read clearly go beyond the academic gains. Jenelle described the importance and broader impact she believes results from learning to read:

I think it's just the transformative power that good intervention does, not only to skills, but to people. . . . it's not only to that individual, it’s to this whole
constellation of people around them. It's their classroom. It's their friends. It's their teachers. It's their parents. It's the anxiety level in the home. It’s . . . you know, so much more.

Discussion

The purpose of this research was to understand more fully the changes associated with targeting one academic area, reading, on the mental health of students, and how these changes contribute to student thriving. A model of what changes when reading improves (Figure 2) was developed based on the multiple perspectives of participants. Three broad domains were reported: cognitive/learning, behavioural/social, and psychological/emotional. Of the three domains, the most change and most kinds of change were observed in the psychological/emotional category, particularly as related to mental health; students gained in general self-efficacy or confidence, they developed improved self-efficacy towards reading, and their self-esteem improved, as did their disposition.

Current research indicates that a relationship exists between academic achievement and mental health. The nine students in this study who struggled with reading were all reported as having compromised mental health in at least one psychological or emotional aspect. Referring to themselves as “dumb,” some students clearly had low self-efficacy and esteem, and those attitudes and feelings extended beyond reading. General self-efficacy or confidence inside and outside school was reduced by their own recognition of their limitations in reading. Ultimately their disposition was affected; several students were described as “angry” and “sad,” descriptors that were not applicable before their struggles with reading. Gains in reading
Figure 2. Model of changes related to improved ability to read. The number in parentheses indicates the number of students, out of the nine, for whom at least one adult reported the change.
ability have been associated with changes in all of these areas, as described by the parents and teachers of these students, and in cases where anxiety and depression had been a concern prior to beginning the intervention, these too appeared to improve. Furthermore, as students became more able readers, they also became more attentive and focused in their work, an outcome that clearly benefits academic achievement. The outlook is positive. These students started enjoying school more, started partaking in extracurricular activities, improved their social skills, and were empowered—both in terms of their learning and how they were choosing to direct their lives. These students were beginning to feel sufficiently confident and competent; they were thriving in school and also in other domains.

Rigorous use of the qualitative analysis method of constant comparison yielded iterative versions of the model. As the third iteration emerged, I recognized its similarity to the recent conceptual writings of Khanna and colleagues (2013) and chose to use their terminology to describe the three domains that had emerged from the analyses. While the general themes are similar to my expectations in beginning the study, and are consistent with the work of Khanna et al., the contribution of this study lies in the window it offers into the dimensions and constituent elements that make up each of these three domains. While I expected to see changes in the cognitive/learning domain, the model provides guidance about what specific changes to look for in children participating in intensive reading interventions. All but one of the children was reported to have demonstrated considerable growth in writing as well as in reading. Changes in attitude toward reading, not surprisingly, were universal and almost as many students demonstrated considerable change on their attitude towards school in general. Some made clear turnarounds in their
willingness to participate in class. Even in the cognitive/learning domain, parents and teachers saw change well beyond the specific reading skills that were taught.

Consistent with previous research, changes in the cognitive/learning domain were accompanied by behavioural/social changes (e.g., Scott & Shearer-Lingo, 2002; Wehby et al., 2003). While the current descriptive study does not employ a design that enables causal claims, the parent and teacher accounts do suggest a constellation of changes took place during the supportive, individualized reading intervention these students experienced. About half of the students demonstrated each of decreased avoidance and increased attention to tasks. Previous research has suggested that attention was a mediating factor for gains in reading achievement (Barriga et al., 2002). However, based on the accounts of parents, classroom teachers, and reading instructors, these data do not provide support for this claim for many of these children. However, enough emphasis was placed on changes in attention, in the interview and focus group data, that I believe it merits inclusion in the model.

The kinds of behaviour in which adults reported change for children who had improved in reading included increases in social competence and decreases in inappropriate behaviours. Not all students showed weaknesses in these areas, so improvement may not have been a realistic expectation for all. Both kinds of changes reported in behaviour are consistent with the findings of previous research which suggests a relationship between the cognitive/learning domain and the social/behavioural domain (e.g., Morgan et al., 2012). Again, the current study was designed to describe, understand, and unpack the nature of these changes, not to assign causal direction. Caution must be exercised in interpretation because the intervention provided strong
social support for learning, as well as strong instructional support for specifically learning
to read. About half of the students were reported to have increased in social competence
and about half to have decreased in exhibiting inappropriate behaviours. The model
provides four clear elements of the behavioural/social domain upon which researchers
and practitioners could focus to study the changes that can accompany learning to read
for students who have experienced difficulties: avoidance, on-task/attention, social
competence, and inappropriate behaviour.

What was perhaps most unexpected in the findings was the wide range of aspects
of the psychological/emotional domain that were reported to have changed in poor
readers who experienced the intensive, supportive, reading intervention. From the
analyses emerged four elements of change in mental health and two changes that were
characterized as empowerment. All of these are similar to aspects of mental health
emphasized in current research on mental health initiatives in schools. Regarding mental
health, adults reported that the children all demonstrated increased confidence in
themselves, which I called general self-efficacy, as well as increased self-efficacy for
academic learning. Although research has demonstrated that confidence positively affects
academic achievement, there is very little showing the reverse as indicated by the results
of this study, that improved academic performance is accompanied by higher levels of
general self-efficacy and self-efficacy for learning. In addition, parents and teachers
spoke frequently about changes in how the students appraised themselves from “I am
stupid” to “I can,” which I have called self-esteem. Along with this change went changes
in disposition; for example, the children were described as happier after their success in
learning to read. There is little previous research on disposition and learning, although
Bryan and Bryan (1991) reported that being positive contributes to learning, while the adults in the present study tended to assume that the happiness was a product of the learning. Again, care should be exercised in interpreting these findings as the design does not enable one to draw causal conclusions, but does suggest that changes in mental health go hand-in-hand with changes in the cognitive/learning domain, perhaps in a reciprocal, propagating fashion, with changes in each domain contributing to further changes in the other. I called the second dimension of the psychological/emotional domain empowerment. The parents and teachers may have focused on this idea, even used this term frequently because the reading instructors spoke of their teaching as “empowering” the children, with strategies or tools to be independent readers. However, parents also spoke of children beginning to engage in age-appropriate self-care as evidence of their increasing independence in areas beyond independence in reading.

The other aspect of empowerment that emerged from the data analyses was self-advocacy. Although this was reported for only about half of the children, I chose to include it in the model for a number of reasons. First, parents and teachers spoke of it with intensity, making it a robust part of their descriptions of change. Second, self-advocacy is critical to the mental health of individuals with any disability, learning difficulty, or mental health challenge (Wood, Fowler, Uphold, & Test, 2005), and is frequently a stated goal of interventions. That self-advocacy characterized change in half of the children described in this study, despite the young age of these children (six to twelve years), highlights its potential importance in understanding what changes when children make large gains in reading achievement after experiencing difficulties learning to read.
Conclusion

When confidence, self-efficacy, and self-esteem improve, and the student is described as being happier and smiles more often, clearly mental health has improved. Targeting reading and making gains in reading, has academic benefits as well as psychological benefits. Furthermore, the confidence that was seen to occur in conjunction with improved reading ability encouraged some positive risk taking in the students; one started playing hockey, joined a competitive soccer team, and learned how to play the clarinet. Students started thriving both in school and in extra-curriculars. Earlier in this paper, thriving was defined as the positive trajectory that goes beyond adequacy and competence—thriving maximizes potential in a number of areas such as academic, social, and extra-curricular activities, so that mental health and life satisfaction are greatly enhanced. Thriving is purposeful and directional in that individuals have a role in influencing and determining the trajectory. The trajectory for these nine students is clearly positive.

The most important outcome of this research is the indication that by targeting reading, something teachers know how to do, we may also see positive outcomes in mental health. Furthermore, such positive outcomes, particularly improved general self-efficacy or confidence and self-efficacy for reading, may lead to more time spent reading, which will likely lead to improved ability and further improved self-perception—perpetuating the cycle. Students, as exemplified in this study, can potentially move towards thriving when one academic area, such as reading, is improved through intensive, supportive research-based intervention.
Limitations and Future Research

An important caveat to these findings is that the positive changes in mental health are likely a result of not only their gains in reading, but also the way in which they were taught. The students were provided the intervention in a very supportive environment; lessons were individualized based on the needs of the student; and instruction began at a level where success was ensured. Individualized instruction was tailored to each student’s academic and psychological needs. This careful and deliberate nurturing was likely as important as the reading skills the students gained, may have allowed deeper learning to take place, and appears to have enhanced student mental health.

Although there was considerable consistency between the data provided by the reading instructors and the children’s parents and teachers, this represents both a strength of the study as well as a potential weakness. All of the adult participants were known to other participants in the study. For example, the parents knew their child’s classroom teacher and all parents and teachers would have spoken with the reading instructors. This highlights the importance of taking the model generated in the current study and examining its validity in helping us to understand the experience of other children who have experienced reading difficulties and benefitted from intensive intervention. To what extent do these three domains (cognitive/learning, behavioural/social, and psychological/emotional) and their six component dimensions (with their 15 elements) account for and help us to unpack the changes in individual cases. A subsequent study, the second in this program of research, was conducted as a validation study of the model. Three cases studies were conducted that chronicled the experiences of three boys as they
progressed through the intensive reading intervention and transitioned from struggling to more able readers.
Chapter 4

Beyond Academics—What it Really Means When a Struggling Reader Learns to Read

Introduction

Reading is arguably the most important academic skill for children to accomplish, often considered the cornerstone to all learning. This paper reports the findings of a qualitative study that described the process of learning to read and the concomitant changes in the mental health of three students. Despite experience and conventional wisdom acknowledging the interrelatedness of reading difficulties and poor mental health or problem behaviours, there has been surprisingly little work in this area. This study examined a model I developed in a previous study that investigated the relationship between being able to read and mental health by unpacking the changes that were observed by parents and teachers as reading improved. The current study uses a multi-perspective case study approach to show the evolution of three boys, in an intensive reading intervention, as they become more competent readers. Data were provided by the students, their parents, their classroom teachers, two reading instructors, and the researcher.

Study Purpose

The purpose of this study was to validate and refine the model developed in an earlier study by reporting descriptions of the lived experiences of three boys with both reading and mental health challenges as they progressed through an intensive reading intervention. Through a synthesis of the data I hope to enhance our understanding of how
improving the ability to read for struggling readers may simultaneously benefit mental health. The guiding research questions were:

1. In what ways does an intensive reading intervention affect struggling readers?
2. How are changes in reading accompanied by changes in the mental health of previously struggling readers?

Context

The reading intervention, offered in a mid-sized city in Ontario, was research-based and used direct instruction to provide systematic and sequential lessons that focused on the development of reading decoding skills and, to a lesser extent and, when necessary, comprehension. This intensive intervention program, with one-on-one instruction, remediated reading difficulties of students who were reading at least one year, and usually two years, behind their peers. The instructors taught foundational and developmental reading skills including phonemic awareness (sound structure in spoken words), phonics (sound/symbol recognition), fluency (word reading accuracy and speed), vocabulary, and comprehension; skills that are consistent with those identified by the National Reading Panel (NRP) as essential components of an effective reading program (National Institute of Child Health and Human Development, 2000). They also included morphology, based on the findings of recent studies (e.g., Carlisle, 2010). The Reading Room, a pseudonym, was privately operated, which limited availability to students whose parents could afford the fees or could obtain a bursary from a community agency or organization. The students in the program had generally experienced substantial and sustained difficulties in reading prior to enrolling in the program.
The program. The reading intervention was structured and systematic while remaining sufficiently flexible to meet the needs of individual students. Most students attending the program were in Grades 2 to 6 and Grade 4 was the mode when the study was conducted. Following an initial assessment, students received 50 hours of individual intervention in one of two formats: two hours per day for five weeks (Grades 4 to 6) or one hour per day for ten weeks (Grades 1 to 3). Students attended their home school for the remainder of the day during this period. After 50 hours of intervention, each student was reassessed and the instructors recommended that the student either receive further intervention in the program or that the student was ready for less intensive supports provided at home or at school. Each student was taught by two of the three instructors who work in the program, on alternating days.

The three reading instructors who were interviewed stressed the importance of ensuring success from the beginning of the intervention and throughout. Once students showed signs of relaxing and gaining in confidence, often a week or two into the program, lesson intensity and difficulty were increased. Instruction focused on decoding skills. The instructors first taught Phonemic Awareness (PA), or the ability to identify and manipulate phonemes (the smallest sound units), through maneuvering blank (letter-free) tiles in a series of blending and segmenting exercises. They then taught phonics, that is sound/symbol relationships, one relationship at a time and sequentially from simpler to more complex. The reading instructors first taught short vowel sounds, followed by long vowel sounds and individual consonants. Then, two sound blending, three sound blending, and more complex codes (letter combinations) were taught. Lessons often integrated previously learned material. With this repetition, lessons could be boring for
students, so the reading instructors consciously strove to make lessons engaging and dynamic by ensuring that each instructional section was short and interactive and by frequently incorporating games. Spelling was taught in each lesson, and morphology (affixes and word meaning) was introduced and interwoven after students were able to blend two or three sounds.

**Rationale**

This study sought to unravel and comprehend the complex and intertwined relationship between improved ability to read and mental health. There have been many studies with varied findings about this relationship. Research has shown that poor mental health adversely affects achievement (e.g., Murphy et al., 2015), and vice versa, poor achievement negatively affects mental health (e.g., Morgan et al., 2012). This study explored the ways in which mental health changed as struggling readers learned to read.

Earlier research has reported that students with emotional and behavioural disorders (EBD) often had coexisting academic and reading deficits (Levy & Chard, 2001; Strong et al., 2004). Studies have also shown that problem behaviours (Trout et al., 2003), attention (Barriga et al., 2002), and more recently mental health (Dahle et al., 2011) are related to reading achievement. Specifically related to mental health, students with reading difficulties have been found to be characterized by feelings of low or inadequate self-efficacy (Ingesson, 2007), feelings of anxiety (Dahle, et al., 2011; Grills-Taquechel et al., 2011), somatic complaints, depression, and in some cases suicidal ideation (e.g., Dahle et al., 2011).

The terms externalizing behaviour and internalizing behaviour have been used extensively in the literature to describe problem behaviours. Externalizing behaviours are
characterized by external manifestations of behaviour such as aggression, hyperactivity, and non-compliance while internalizing behaviours are generally less visible internal behaviours such as anxiety, depression, and stress related disorders. The Child Behaviour Checklist (CBCL) (Achenbach, 2001) has been widely used to assess and describe problem behaviours, and consists of eight syndrome scales: three describe internalizing behaviours (anxious/depressed, withdrawn/depressed, and somatic complaints); two describe externalizing behaviours (rule-breaking behaviour, and aggressive behaviour); and three fall between the two (social problems, thought problems, and attention problems). I first review the literature representative of the earlier approach that emphasized the behavioural challenges associated with struggling to learn to read, and then I review the literature that reflects the current emphasis on students’ mental health rather than on EBD.

**Behavioural Challenges Associated with Struggling to Learn to Read**

Behavioural problems have been described as occurring along a continuum, varying in severity from lower intensity, higher frequency behaviours such as classroom disruptions and inattention (problem behaviours), to higher intensity, lower frequency behaviours such as aggression (often referred to as emotional and behavioural disorders or EBD). Most classroom disruptions are caused by high incidence, low impact behaviours such as talking-out, not paying attention, not completing tasks, and arriving late to class (Lopes, 2007). The more extreme behaviours of EBD include a number of externalizing characteristics and internalizing characteristics that inhibit a child’s ability to build and maintain social relationships with peers, teachers, and adults. Children with EBD are often characterized by poor academic performance that cannot be explained by
intellectual, sensory or health impairments (Reid et al., 2004). In the classroom
behavioural exceptionalities have generally been defined as those behaviours that differ
significantly and chronically from socially accepted norms, interfering with the learning
of the individual and of the class as a whole (Hutchinson, 2014).

Although existing evidence supports a relationship between poor academic
achievement and problem behaviour (Levy & Chard, 2001; Lopes, 2007; Nelson et al.,
2004; Pierce et al., 2004; Reid et al., 2004; Ruhl & Berlinghoff, 1992; Strong et al.,
2004), the directionality of this relationship is still in question. Some studies suggest a
reciprocal relationship (Hinshaw, 1992; Trzesniewski et al., 2006) while others support
either reading (e.g., Morgan et al., 2009) or behaviour (e.g., Katsiyannis et al., 2008) as
the cause of difficulties in the other. Regardless of directionality, several studies have
shown that students with EBD often have large academic deficits related to reading,
mathematics, and written language achievement (Nelson et al., 2004; Trout et al., 2003).
A meta-analysis conducted by Reid and colleagues (2004) showed that students with
EBD performed significantly below their peers in all academic areas with the greatest
deficits in reading, mathematics, and spelling. Carroll et al. (2005) found that literacy
difficulties and reading problems were closely related to delinquent and aggressive
behaviours, and Arnold et al. (2005) showed that more parents of children who struggled
to read, reported higher rates of delinquent behaviours than did parents of able readers.
Most of the studies on behavioural challenges and struggling readers were conducted
prior to 2010.
Mental Health and its Relationship to Reading

Until recently there has been very little research investigating the relationship between mental health and reading difficulties. Not only has there been a paradigm shift in recent years away from investigating problem behaviours and towards the understanding and promotion of mental health, but it is now recognized that problem behaviours are often manifestations of underlying mental health issues. This suggests congruence between the earlier literature regarding behaviour problems and reading difficulties and the more recent literature regarding the relationship between mental health and reading difficulties. There is now documented evidence that struggles with reading are associated with mental health challenges through increased anxiety and depression and the development of negative self-concept.

Anxiety has been consistently reported in recent literature as being associated with reading difficulties. Carroll et al. (2005) showed that students, both boys and girls, with literacy difficulties frequently displayed comorbid anxiety. Data from the large-scale, nationally representative British Child and Adolescent Mental Health Survey (in Meltzer et al., 2000) suggested that literacy difficulties were closely related to both separation and generalized anxiety disorders, and boys were as likely to show increased rates of anxiety as were girls (children and youth aged 9 to 15 years). As discussed by the authors, separation anxiety has been associated with school phobia and the difficulties experienced by struggling readers may contribute to related anxieties about going to school. Furthermore, the authors found that the link between anxiety and literacy difficulties was not accounted for by attention levels; arguing that it was more likely that literacy difficulties were a risk factor for increased anxiety. Moreover, they suggested
that these outcomes were likely to be a particular concern for children and youth who were naturally anxious. These findings extend and complement those presented by Willcutt and Pennington (2000) who found both internalizing difficulties and externalizing behaviours were related to reading disabilities. However, unlike externalizing behaviours, internalizing symptoms of anxiety and depression remained significant after researchers had controlled for ADHD, which led the authors to suggest that internalizing behaviours may be directly related to reading disabilities (and not mediated by ADHD).

A number of studies have focused on the relationship between reading difficulties and internalizing behaviours, especially depression. Reading difficulties have been shown to be associated with depression or depressed mood (Carroll et al., 2005; Willcutt & Pennington, 2000) and suicidal ideation (Dahle et al., 2011; Daniel et al., 2006; Wilson et al., 2009). Using longitudinal data from the Pittsburgh Youth Study (PYS) Maughan and colleagues (2003) found robust links between severe, persistent reading problems and increased risk of depressed mood for boys aged 7 to 10 years. Interestingly they found that depressed mood decreased with age such that: 13.4% of the younger age group (mean age 7.4 years) was rated as depressed; while 7.1% of the middle group (mean age 10.7 years) was rated as depressed; and only 2.5% of the oldest group (mean age 13.8 years) was rated as depressed. For the youngest group, the rate of depressed mood for boys with reading problems was substantially different (three times greater) than that of their non-reading disabled peers. Another study by Arnold et al. (2005) found that the youth (aged 15 years) classified as “poor readers” in their study self-reported higher rates of depression and anxiety than did those with typical reading ability.
Although most struggling readers are not clinically depressed, children and youth with reading problems are often at-risk of depressed mood (Alexander-Passe, 2006) and, in some cases, of suicidal thoughts or attempts (Daniel et al., 2006). In a study comparing typically achieving readers and poor readers (n = 188), Daniel et al. (2006) found that youth with poor reading ability were more likely to experience suicidal ideation or attempts, and were more likely to drop out of school than were their typically achieving peers. Similarly, a study of 70 students with severe dyslexia, matched with non-disabled peers, showed that while nine out of the 70 participants with dyslexia experienced suicidal ideation (with one attempting suicide), no instances of suicidal ideation were reported for the control group (Dahle et al., 2011).

In her study giving voice to 75 teenagers and young adults with dyslexia, Ingesson (2007) investigated how they experienced school in terms of well-being, educational achievement, peer relations, and belief in their future. Results showed that the first six grades were full of generalized distress and failure for a majority of the participants, while in later years problems were related more specifically to reading and writing activities. Of the 75 participants, 40 percent had low academic self-esteem and described dyslexia as negatively affecting their self-esteem “quite a lot” or “very much.” A significant correlation was found between self-esteem and the participants’ belief in their future; only 13 percent chose to continue with post-secondary education compared to the general population (43 percent). A meta-analysis found that 89 percent of studies, representing a wide range of ages and measurement techniques, showed a significantly lower academic self-concept for students with dyslexia or learning disabilities than for the general student population (Zeleke, 2004). These findings were further supported by a
review of the literature on the dyslexia and associated self-concept conducted by Burden (2008). Historically terms such as self-concept, self-esteem, self-worth, and others have been used synonymously and interchangeably, making a synthesis of the research and definitive cross-study comparisons difficult. Despite the inconsistent use of terminology and wavering constructs, Burden (2008) found that, when comparing students with dyslexia or learning disabilities with typically achieving peers, there was no significant difference in their general self-concept, but there was a clear and significant difference in academic self-concept.

Reading difficulties have been shown to be associated with both problem behaviours and the mental health of students. As we move away from problem-oriented approaches to more proactive whole health approaches, we see a corresponding transitional shift in the literature as well. For example, Morgan et al. (2009) found that children with reading problems in Grade 1 were significantly more likely to display problem behaviours (poor task engagement, poor self-control, and aggression) in Grade 3. In a similar, but more recent study, the same authors found that poor readers in Grade 3 were twice as likely to consider themselves as angry, distractible, sad, lonely, and unpopular in Grade 5 as those not considered to be poor readers in Grade 3 (Morgan et al., 2012). In a Canadian context, a large scale, nationally representative study that examined the mental health of 670 people (aged 15-44 years) with learning disabilities showed that they were more than twice as likely as a corresponding non-disabled group to report high levels of distress, depression, anxiety disorders, and suicidal thoughts (Wilson et al., 2009). The literature indicates an association between struggling with reading and problem behaviours in older studies and poor mental health in more recent
The composite of the older and more recent studies emphasizes the multifaceted impact of un-remediated reading problems and highlights the need for early intervention.

**The Model**

This research used a model developed in the previous study that looked at what had changed in students’ learning and mental health characteristics during and following an intense intervention for struggling or non-readers, as described by their parents and classroom teachers. This model (Figure 3) identified a number of outcomes observed by these adults as having changed following an intensive reading intervention at The Reading Room; the intervention attended by the students in this study. The changes were organized into three domains: cognitive/learning, behavioural/social, and psychological/emotional. Cognitive/learning changes include changes in academic achievement (reading and writing) and changes in attitude (towards school, towards reading, and towards willingness to participate in class). Behavioural/social changes include those related to attention (avoidance and on-task behaviours) and changes in presenting behaviours (social competence and inappropriate behaviours). Changes that were reported in the psychological/emotional domain included changes in emotional well-being (general self-efficacy, self-efficacy for academic learning, self-esteem, and disposition) and empowerment (independence and self-advocacy).

The adults reported that, as one would expect, all students made gains in reading achievement, and eight out of nine made concurrent gains in writing. All students but one were observed to be more positive about going to school and more positive about reading, although for most reading remained a challenge. Most of the students started participating more in the classroom; they volunteered answers more frequently; they
Figure 3. Model of changes related to improved ability to read.
contributed more during group activities; and several even volunteered to read in class, something they had avoided in the past. Behavioural/social changes were noted in eight of the nine students; for the student without changes, the mother and classroom teacher reported having no behavioural/social concerns prior to the intervention. She was reported to be generally on-task with her work and did not demonstrate inappropriate behaviours. The other eight students were reported to have shown change in at least one aspect of behaviour; they became either more attentive, more competent socially, or demonstrated fewer inappropriate behaviours. Almost half of the students (four of the nine) demonstrated improvement in both areas: their ability to attend improved, as did the appropriateness of their behaviour. Changes in what I have called the psychological/emotional domain were dramatic in that improvements in emotional well-being were ubiquitous across the sample of nine students; all demonstrated improved general self-efficacy (or confidence as reported by parents and classroom teachers) and all but one showed improvement in self-efficacy for academic learning, self-esteem, and disposition. Furthermore, empowerment in terms of independence and self-advocacy was demonstrated by seven out of the nine of the students.

**Methodology**

This qualitative study was designed to create a detailed descriptive account of the experience of each of three boys as they progressed through the intervention, including any changes noted in their academic ability, reading attitude, general and reading self-efficacy, attention, and their mental health. In an ethnographic systematic study of these boys as the focal participants, data collection was facilitated through my regular attendance in their learning environments. The model developed in Study 1 was used to
guide data collection in Study 2 including the day-to-day observations, informal and impromptu interviews and conversations, and summative formal interviews following the intervention. Reading ability was measured pre- and post-intervention using the Test of Word Reading Efficiency (TOWRE), subtests of the Woodcock-Johnson, and the Gray Oral Reading Test-Fourth Edition (GORT-4). All of the reported reading scores presented in this paper were provided by The Reading Room; their record keeping focused on grade level scores rather than raw scores. Progress throughout the intervention was gauged qualitatively by observing what was being taught (word level difficulty and passage difficulty), the rate at which students advanced (reading progressively longer words and more difficult passages), time on task, and changes in attitude towards reading (increased willingness to read and engagement in reading). Changes in social, cooperative, and interactive behaviour were also recorded through observations, informal interviews with the students and the reading instructors throughout the intervention, and through formal semi-structured interviews with all participants following the intervention (Appendices D through G). Standard qualitative analyses were used to identify emergent themes from the various data sources (Patton, 2002).

**Participants**

Three boys, Dillon, Logan, and Mason, ranging from Grade 2 to 4 began an intensive one-on-one reading intervention because of sustained difficulties they had experienced learning to read. Dillon, the youngest, came from a disadvantaged and challenging background, and his foster mother feared that he would not learn to read, because at age seven years he did not know the sounds of the letters. He began the intervention as a non-reader when he was in Grade 2. In addition, Dillon had been
identified with a behavioural exceptionality. Although Logan was a struggling Grade 3 reader, his story unfolded in stark contrast to Dillon’s. Logan came from a book-rich, supportive, and stable family, and was identified as having both a learning disability and as being extremely gifted (at the 99.9 percentile on an intelligence test). Logan struggled with decoding, but was still able to comprehend, and began the intervention with his sense of self reasonably intact. His mother described some emotional and behavioural concerns she had noticed with Logan, but his classroom teachers had not noticed any. Mason had a similar upbringing to Logan, but he began the intervention clearly affected by too few successes in school over too many years. Mason was able to decode reasonably well, but lacked fluency and comprehension. As the oldest of the three boys, he began the program when he was in Grade 4—by this time he was becoming aggressive at home and had been diagnosed with depression. Through the intervention all three boys made gains in their reading ability and demonstrated additional gains that clearly extended well beyond the classroom.

Two of the three reading instructors (Allyson and Jenelle) had instructed at The Reading Room since its inception in 2002. Allyson, an occupational therapist and the founder of The Reading Room, had recognized a need for an intensive structured and sequenced reading intervention, when her children were identified with reading and math learning disabilities. At that time, Allyson teamed up with Jenelle, and together they trained in the Association Method (DuBard & Martin, 2000), Barton Reading & Spelling (1999), as well as Discover Reading and Discover Math (The Reading Foundation, n.d.). In 2007 they became certified Orton-Gillingham instructors as recommended by the International Dyslexia Association. They described blending what they saw as the best of
each program to create an intensive reading intervention to meet the needs of struggling readers. Although Allyson and Jenelle were the main reading instructors in The Reading Room, a third instructor, Helen, conducted half the intervention sessions with Logan. Helen worked part time at The Reading Room, and also was trained in the Orton-Gillingham method of instruction. Two reading instructors were assigned to each student enrolled in the program and alternated days of instruction. The parents (or guardians) of the students and their classroom teachers were invited to participate; all adult participants in this study were women.

Data Collection

In this multi-perspective study, data were collected from a number of sources. Table 6 lists the participants who provided data specific to each of the three case studies. As a primary/junior, part-time educator, with experience in special education in classrooms, my position as an ethnographic observer allowed me to be sensitive to any changes in the reading ability of participants, as well as any other evolving and associated changes. All classroom teachers responsible for teaching the students were invited to participate in this study; one was interviewed for each of Dillon and Mason. Because Logan was in French Immersion, three classroom teachers were interviewed: his French language classroom teacher (Jalen) who also taught him social studies and visual art; his English language teacher (Sydney) who also taught him health; and Angie, his French Immersion teacher who taught him science, math, drama, dance, physical education. Angie was also the Student Support Teacher at Logan’s school and provided one-on-one or small group instruction for Logan. The reading instructors, Jenelle and Helen, alternated days of instruction for Logan; Allyson and Jenelle alternated days for Dillon.
Table 6

Participants Involved in Each Case Study

<table>
<thead>
<tr>
<th>Student</th>
<th>Related Participants</th>
<th>Pseudonym</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dillon</td>
<td>Student</td>
<td>Dillon</td>
</tr>
<tr>
<td>(Grade 2)</td>
<td>Foster mother/aunt</td>
<td>Tanya</td>
</tr>
<tr>
<td></td>
<td>Classroom teacher</td>
<td>Shelley</td>
</tr>
<tr>
<td></td>
<td>Reading instructors</td>
<td>Allyson</td>
</tr>
<tr>
<td></td>
<td>Researchers</td>
<td>Jenelle</td>
</tr>
<tr>
<td>Logan</td>
<td>Student</td>
<td>Logan</td>
</tr>
<tr>
<td>(Grade 3)</td>
<td>Mother</td>
<td>Stacie</td>
</tr>
<tr>
<td></td>
<td>French language teacher</td>
<td>Jalen</td>
</tr>
<tr>
<td></td>
<td>English language teacher</td>
<td>Sydney</td>
</tr>
<tr>
<td></td>
<td>French Immersion and Student Support Teacher</td>
<td>Angie</td>
</tr>
<tr>
<td></td>
<td>Reading instructors</td>
<td>Jenelle</td>
</tr>
<tr>
<td></td>
<td>Researchers</td>
<td>Helen</td>
</tr>
<tr>
<td>Mason</td>
<td>Student</td>
<td>Mason</td>
</tr>
<tr>
<td>(Grade 4)</td>
<td>Mother</td>
<td>Krista</td>
</tr>
<tr>
<td></td>
<td>Classroom teacher</td>
<td>Sandra</td>
</tr>
<tr>
<td></td>
<td>Reading instructors</td>
<td>Allyson</td>
</tr>
<tr>
<td></td>
<td>Researchers</td>
<td>Jenelle</td>
</tr>
</tbody>
</table>

and Mason.

Data were collected through ethnographic observations and formal and informal interviews. Each participant was observed every other day that they participated in the reading intervention; Dillon was observed for approximately 40 hours, Logan approximately 24 hours, and Mason approximately 35 hours. Post-intervention formal, semi-structured interviews with parents, classroom teachers, reading instructors, and the students were conducted in order to gather information on their perspectives as to what had changed for the student since beginning the intervention. These interviews ranged in length from 28 to 53 minutes for the parents, 20 to 67 minutes for the classroom teachers,
and 28 to 62 minutes for the reading instructors and 4 to 16 minutes for the students themselves. The interviews were conducted at a time and location that was convenient to the participant; all interviews for the parents and students were conducted in either their homes, or in the classroom where the intervention took place, all classroom teacher interviews were conducted in their classrooms, and the reading instructors were interviewed in the classrooms in which the interventions took place. All formal interviews were audio-recorded and transcribed verbatim. Informal interviews with the reading instructors were conducted throughout the reading intervention of all three participants and were recorded by notes made at that time.

Data Analysis

This multi-method, multi-perspective study was designed to elicit as much information about each case as possible. The cases were analyzed separately by incorporating data from all participant groups—the students, the parents, the reading instructors, classroom teachers, and researcher. Through an analysis of this data, it was possible to describe the relationships among the students’ growing ability to read and their learning, social behaviour, and mental health.

Standard methods of qualitative theme analysis (Patton, 2002) were used to analyze the interview data, facilitated through the use of NVivo 10, a data management system that helped organize, manage, and analyse the data. Interview transcripts were coded in order to identify categories, themes, and patterns. An initial reading of the transcripts identified issues and ideas as they emerged (inductive approach), providing the groundwork for subsequent coding. The documents were then reviewed again in search of additional data that supported these initial coded categories (deductive
Categories were subsequently merged to form a more focused coding framework that led to the identification of emergent themes. Each case was initially analyzed and described separately, recognizing its individuality and unique situation; Dillon’s case was the first to be analysed, followed by Logan’s, and lastly by Mason’s. Subsequently, however, a cross-case analysis was performed in order to discern and highlight differences and similarities among the three cases. The observation data was then used to augment the findings of the interviews by verifying and providing substantive evidence for the emergent themes. The findings revealed important connections between developing reading skills and the mental health of all three boys.

**Results**

To varying degrees, the three participants made gains in their ability to read. Logan made the greatest gains, while both Dillon and Mason made smaller gains than had been expected and, in Allyson’s view, gains not consistent with the typical gains of students in the intervention. Of the three, Mason showed the least improvement with only small gains in fluency (rate and accuracy) and comprehension. Table 7 provides a synopsis of some of the key information related to the reading of each of the three boys. Reading comprehension was assessed using the Gray Oral Reading Test (Revised-4) (GORT-4). Because the ultimate goal of reading is comprehension, it was used as a general indicator of reading improvement. Data on other measures of reading (e.g., rate and accuracy) and other aspects of academic achievement appear in Tables 8, 9, and 10 for the three boys. The three case studies are reported for the students from the earliest to the highest grade: Dillon, Logan, and then Mason.
Table 7

*Pre- and Post-Intervention Reading Comprehension Scores*

<table>
<thead>
<tr>
<th>Student</th>
<th>Grade/Age (at initial assessment)</th>
<th>Number of Sessions</th>
<th>Comprehension: Pre-Intervention Grade Equivalent</th>
<th>Comprehension: Post-Intervention Grade Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dillon</td>
<td>2.2/8yr 8mth</td>
<td>93</td>
<td>&lt;1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Logan</td>
<td>3.1/8yr 0mth</td>
<td>50</td>
<td>&lt;1.0</td>
<td>4.2</td>
</tr>
<tr>
<td>Mason</td>
<td>4.4/9yr 5mth</td>
<td>72</td>
<td>2.2</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Case Study 1: Dillon

**Introduction.** At the time of this study, Dillon was living with his foster parents: Tanya, his aunt, and his uncle. He had been living with his aunt and uncle for 3 years and, during the reading intervention, he began seeing his birth mother and father (separately) on occasional weekends. He was in Grade 2 and was eight years old. He had repeated Grade 1 due to his school’s concerns about his behaviour and his reading difficulties. He was identified as having a behaviour exceptionality and had an Individual Education Plan (IEP) for behaviour. A psychoeducational assessment reported that Dillon was at-risk for a reading disability and suggested that he would benefit from occupational therapy to improve fine motor skills and visual-motor integration. The assessment also reported that he had poor attentional and impulse control.

Despite getting extra help at school and home and attending Kumon, Dillon continued to struggle with reading. Tanya secured funding from Social Services for Dillon to attend The Reading Room. Dillon started the intervention on October 19, 2010, and finished on April 20, 2011 for a total of 93 sessions. At the end of the initial program (50 hours) it was clear that, although Dillon had made gains, he was still in need of further one-on-one intensive instruction. Social Services refused to continue the funding,
and Allyson found a sponsor to finance the additional 43 sessions (45 minutes each). Near the end of this period of extended instruction, the instructors and Tanya decided that a transition out of the program might benefit Dillon, so for the last two weeks he attended three times a week instead of five.

When he started at The Reading Room Dillon’s reading was extremely limited. He did not recognize any sight words except his name, which he identified by its first letter D, nor did he know the sounds of many letters (Tanya). Shelley, Dillon’s classroom teacher, said that Dillon started the school year in September as a D student in reading and writing, but was “shining” in math, science, and social studies, as a B student.

In addition to his struggles with reading, Dillon experienced emotional and behavioural challenges. Shelley described Dillon as a “behaviour student” and was concerned for his emotional well-being. Jenelle considered Dillon to be a “fragile kid” who was “quite volatile” and tended to respond to his environment and the people in it “in a pretty snap kind of way.” She said that this volatility might be a reflection of what he had experienced in his life. Jenelle described him as “very curious about things, and about the world, and learning” but also guarded and “cautious in his responses.” In Jenelle’s opinion, Dillon’s greatest strength was that he had maintained “quite a big sense of himself” and perceived himself as “capable” which she attributed to the nurturing of his foster mother, Tanya, who she felt had “done a lot for his self-esteem.” Jenelle viewed this support as important for Dillon because he “started from a lower place, he came with a far more troubled background and I think he just had a more challenging childhood than most kids do.” Jenelle reported that, because of his cognitive and emotional challenges, she found Dillon “tiring to work with” and lessons to be a “long slog” for both of them.
As well as teaching Dillon to read, Jenelle reported she had to “feed him as much as [she could] in both goodwill and all those other things.”

**Changes in Dillon: “When I started coming here . . . it made my life better.”**

Dillon presented the most complex case with respect to the changes that were identified as he became a more able reader (Figure 4). This was probably due to his challenging and less advantaged past and to conflicting observations and opinions reported by the participants in his case. Nevertheless, as Dillon grew as a reader, changes were noted in all three domains. Cognitive/learning changes were evident in his improved ability to read and to write, as well as in his attitude towards reading. Behavioural/social changes were noted in his improved on-task behaviour and decrease in inappropriate behaviours; he became more compliant and displayed fewer problem and aggressive behaviours.

Lastly, psychological/emotional changes were described in his self-efficacy for learning and his disposition.

**Cognitive/learning changes.** In academics, Dillon made clear gains in reading. To a lesser extent, but still reported, was an improvement in writing. His attitude towards reading had also changed and was reported by both his foster mother and the reading instructors.

**Changes in reading.** Dillon’s reading and spelling ability were measured pre- and post-intervention, and the results are summarized in Table 8. Although both reading and spelling showed some improvement, both remained a challenge for Dillon. His fluency score did not improve, but his scores on decoding and comprehension did. Allyson reported being pleased with Dillon’s progress, even though he remained substantially
Figure 4. Changes reported in Dillon as his reading improved (shaded areas).
Table 8

*Dillon’s Pre- and Post-Intervention (after 93 sessions) Reading and Spelling Scores*

<table>
<thead>
<tr>
<th>Skill Assessed</th>
<th>Instrument</th>
<th>Pre-Intervention (Grade Equivalent)</th>
<th>Post-Intervention (Grade Equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sight Word Efficiency</td>
<td>TOWRE</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Phonemic Decoding Efficiency</td>
<td>TOWRE</td>
<td>1.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Letter-Word Identification</td>
<td>Woodcock-Johnson</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Word Attack (Non-Word Reading)</td>
<td>Woodcock-Johnson</td>
<td>1.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Reading Rate</td>
<td>GORT-4</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Reading Accuracy</td>
<td>GORT-4</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Reading Fluency</td>
<td>GORT-4</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>GORT-4</td>
<td>&lt;1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Spelling Phonetically Regular Words</td>
<td>DST: Spelling</td>
<td>1.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Spelling Phonetically Irregular Words</td>
<td>DST: Spelling</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Overall Spelling</td>
<td>DST: Spelling</td>
<td>1.7</td>
<td>2.5</td>
</tr>
</tbody>
</table>

TOWRE: Test of Word Reading Efficiency
GORT: Gray Oral Reading Test
DST: Diagnostic Spelling Test

below grade level, because at least he had developed some capacity to read and was successfully reading and enjoying Grade 1 level books.

Tanya recounted what she saw within the first two weeks of the intervention: “He wasn't reading but he could definitely sound and remember the sounds of some of those letters, and the pride honestly … and the fact that he’d remember, it was like a light.” She also described how he started to read signs when they were out, how excited he was when he got his first book, and that he was trying to read it in the van on the way home. Both reading instructors described Dillon as making slow but steady progress; they reported that “he worked for everything that he got all the way along” (Allyson) and that “not a lot came easily to Dillon” (Jenelle). Allyson added that she considered Dillon a challenge to
teach because “you could only push him so far before he would shut down”; “he wasn’t our toughest customer, [but] he was on the tough side of middle.”

Nevertheless, because he had transitioned from a non-reader to a more able reader, the reading instructors were optimistic that with continued and appropriate support, he would at minimum be “literate in the real world” (Allyson). Dillon reported that his reading had improved, attributing it to “coming here [The Reading Room]” and “sounding out.” In his words, “I couldn't sound out, I couldn't read. I couldn't even, I didn’t know the sounds, until I came here, and they taught me everything I have to know to read.”

There was, however, a conflict between how Dillon’s classroom teacher viewed reading instruction and what was being taught at The Reading Room. Although Shelley, Dillon’s classroom teacher, agreed that by Christmas Dillon was “definitely decoding … he was decoding well,” and that he was “decoding much better [than before],” she felt he was doing so at the expense of using other reading strategies that she emphasized such as sentence structure (syntax) and meaning. Dillon was receiving conflicting messages in the two environments. At The Reading Room he was being taught to “use the code” (Allyson) and to apply what he knew about letters and their sounds, while in his classroom he was being told to skip any word he did not recognize, read to the end of the sentence, and guess its meaning. According to Shelley, Dillon became defiant and “adamant” when she encouraged him to use these strategies instead of decoding, and his behaviour escalated. Shelley did, however, acknowledge Dillon’s growth in reading: “On a good note though, his reading level has increased from Kindergarten to Grade 1, so he has come up a little bit in his reading level.”
Changes in writing. Tanya and Jenelle both described Dillon’s ability and willingness to write as improved. He initiated his own writing projects and Jenelle recounted how “he was writing books at home and talked about writing his stories down which I thought was amazing; like how he got his scar, you know he was going to write about that.” She continued, “I think he was beginning to self-identify as both a reader and a writer.” His spelling improved and he became visibly excited when he first started spelling CVC (consonant/vowel/consonant) words, realizing that he could now generate words correctly (observation, March 22, 2010). Jenelle described one of these early instances: “He instantly wanted to go out in the hall and show Tanya in the middle of the session; ‘can I go show this to Tanya?’ because they were all right … that instant you know [he is feeling] ‘I did it!’” When I asked Dillon if anything else had improved since he had become a better reader, he replied, “Now I’ve learned my sounds, so now I know how to write more better.”

Changes in attitude towards reading. Although Tanya admitted that Dillon had not become an avid reader, she was happy with the change she had noticed, “he's reading, which is huge!” She described how he would “more readily” pick up a book, and “now he will openly try; openly try without a battle at all.” She found that Dillon was less frustrated; she described him as “more eager and … getting him to read is easier, getting him to literally go, and pick out something is easier … now he sees the joy of picking out whatever he wants, even if it's a book he can't read” and “definitely his attitude and mood have changed towards reading.” Allyson described Dillon’s attitude towards reading as she saw it evolve; he began as a reluctant reader, then there was a period “where he was sort of like more turned on and hot about it … you know and more dug in.” Although
Shelley argued that Dillon had actually become more frustrated at school because she expected him to use reading strategies not taught at The Reading Room, she did feel that there was a change in his attitude towards reading. She reported that sometimes his interest would be held by a book, “a comic book, or a hero book, or something like that, that would hold his interest more than it did earlier” and “at least he would now sit on a reading chair and offer to read,” something he never did before. Dillon described this change himself: “I like to read …more than I used to.” He also admitted that in the past he did not volunteer to read; “I wanted to [then] but now I do.” He knew what had changed for him: “I like to read now, more than I used to, and I like to read more, and I like to do math, and writing now.”

In summary, although he progressed “slowly, extremely slowly” (Jenelle) over the course of the 93 sessions of intensive one-on-one instruction, Dillon made clear gains in his ability to decode and comprehend. However, all participants believed that he would benefit from further intervention and ongoing support that was developmentally appropriate. His writing had improved perhaps because of his improved spelling and his feeling more capable. Shelley, his classroom teacher, reported that some of his stronger subjects (math, social studies, and science) had suffered following the intervention at The Reading Room because his problem behaviour had worsened, although she acknowledged that his decoding had improved and, as a result, he could “read a problem in math, and he can read some social studies material.” Tanya attributed his “deteriorated” attitude and mood at school to having to adjust to contradictory methods of reading instruction, as well as the loss of “all this one-on-one” attention and instruction at the Reading Room that she believed he needed. Despite the complicating dimensions of
his disruptive behaviour and transitioning back into a regular classroom, the assessment
results and participant perspectives, including Dillon’s own perspective, indicated that his
reading and writing had improved, as well as his attitude towards reading.

**Behavioural/social changes.** Participants reported that two areas related to
behaviour changed for Dillon: his attention or on-task behaviour and his inappropriate
behaviour; he was more willing to comply and displayed fewer problematic and
aggressive behaviours. Analyzing data about changes in Dillon’s behaviour proved
challenging due to the many contributing and evolving factors. Contextual factors were
influential: his behaviour differed, depending on his environment; he started seeing his
birth mother and father; his medications were changed and adjusted; and, for a number of
reasons, returning to his regular classroom full-time proved difficult for Dillon. At The
Reading Room he became more relaxed and, in general, easier to work with over time
while, at home and at school, his behaviour improved while he was attending The
Reading Room, but worsened upon his full-time return to his regular classroom.

**Changes in on-task/attention behaviour.** One of the challenges when working
with Dillon was his inability to attend, especially for longer periods; both reading
instructors described a progressively improved ability to attend. Allyson described how,
even though “he played as much with little things in the beginning as at the end,” she saw
a bigger change in attention: “[initially] we couldn’t give him very much [to do],” and
then as he progressed through the program, “there were certainly…periods where you
thought, ‘Oh, I got quite a bit out of him, right? He read his sounds, he read his words, he
spelled,’ and that’s when I felt … he was doing more and attending more.” Jenelle
described Dillon’s improved ability to attend as “resiliency” because when he
experienced “failures as he made his way through very new material, and misreads” he was more able to “bounce back from it.” She went on to say, “there was far less of a shutdown response … you could push him along into [attending to] more repetitions” whereas in the beginning “if you got three repetitions it felt good.” By the end of the program, “You could press that much harder on that new material without him collapsing, so absolutely I think he just gained sort of moral strength, or fortitude.”

Changes in inappropriate behaviour. Allyson described how, especially initially, she found Dillon difficult to work with, saying, “some kids you go in, and you sort of think well, this will be a nice easy session…and certainly you never had that sense with Dillon.” Jenelle described a change in Dillon’s behaviour as lessons progressed with “far less shutdown, far less arms crossed, ‘I’m not speaking,’ like he would do that whole silent phase for a long time, where he put his head on the desk and not speak.” He generally became increasingly more willing and compliant (observation, February 7, 2011). Furthermore, if he became frustrated, and “certainly he still got frustrated…it was far easier to bring him around again, which was huge.” Jenelle further described the change she saw in Dillon, saying he became more relaxed and comfortable: “Yeah I think he blossomed…he became so physically affectionate by the end…this kid has really turned around, from where we couldn't really touch him, to sort of, he wants to sit in your lap to read.” That Dillon had developed strong relationships with the people at The Reading Room was clear when he said, “I miss it going here. I liked it going here . . . I met new friends from here—you guys.” Clearly Dillon had developed a sense of belonging at The Reading Room; on another occasion he said to Allyson, “I just wanted to tell you that you are my friend” (observation, November 11, 2010). Despite the
instructional challenges posed by Dillon, and his history of aggressive behaviour in other contexts, Jenelle said that he “really wasn't very aggressive with us.” At times he would “shut down himself but he doesn’t lash out at other people.”

In stark contrast, Shelley, his classroom teacher, described the notes she had made on Dillon’s first full day back in their classroom following the intervention:

So he returned from [The Reading Room], about the middle of April. So here he is, this would have been his first day he was back just after Easter, coming in on the Thursday lacking attention, hungry, had an early snack, unfocused with shared reading, angry, frustrated. … and then encouragement needed for writing [but] OK when underway…he is back and full time, remember, [needing] reminders to do as told, grumpy when not getting to sit on his choice of carpet spots, speaking out, saying 'so what,' reminders not to talk out, he had a toy in his desk, and yelled at a classmate who spoke out without her hand up. So that’s the way he was coming in [after the intervention had ended], but earlier in the year . . . he was coming in just dandy.

Shelley went on to say that she found Dillon to be “more needy” and requiring “a lot more attention” and that his aggressive behaviour had escalated since he returned to the classroom full time. Although she believed Dillon missed and needed some one-on-one instruction, there were other students in the class who were “as low or lower than Dillon,” but she stated that it was particularly “hard for him because he is the behaviour student.” She reported that his behaviour had “worsened” and had become “explosive” and “inconsistent, aggressive, [and] at times dangerous.” Shelley concluded, “We just
can't have him kicking someone or hitting the door or . . . swearing at the principal or trying to bite some adult.”

In Tanya’s view, Dillon’s inappropriate and negative behaviour after the end of the intervention affected his social relationships. She described Dillon’s transition to full-time in the classroom as “difficult.” Even though she thought he enjoyed returning “to be with his friends and the whole social network,” she believed he benefitted from, and therefore missed, “the positive reinforcement” he was getting at The Reading Room. In her view, this affected his friendships because “unfortunately there are some [classmates] who are probably scared of him; there’re some of them who are just scared of the whole idea of teacher and Dillon screaming at each other.” She described how she saw Dillon’s friendships evolve: “They knew him all along, and then they get a break from him and had this happy Dillon [while he was attending The Reading Room],” and then a frustrated and confrontational Dillon when he returned.

**Psychological/emotional changes.** Although Jennelle considered Dillon “still a fragile person” she thought he was “less labile, and less fragile” following the intervention. She described how, with his gains in reading, he had also developed “fortitude” and “fibre” and was more resilient and able to persist. His general disposition had improved and his self-efficacy for reading had clearly improved. Jenelle was happy with the relationship they had established, and thought that he was more confident in general, as demonstrated by “all the physical affection … just verbalizing more about his story, and more about how he felt about things … he'd say ‘I love you guys’… just very emotionally opened up …that was great to see.”
Changes in self-efficacy for academic learning. When Dillon started at The Reading Room, “he didn’t have any confidence in his ability to read” (Allyson). Both reading instructors, however, believed that by the end of the intervention, Dillon’s self-efficacy had increased. Jenelle reported that he clearly “identified himself as a reader … I think certainly in terms of his abilities, and his view of himself as a reader, he felt that was something he could do—absolutely!” Allyson agreed, saying that there was clearly a stage “where he would start to describe himself as a good reader” and, by the end, she believed that Dillon “perceived himself as a reader.” Tanya also believed that Dillon’s self-efficacy had improved and that he had developed a sense of pride in what he had achieved. Following the intervention, Dillon thought of himself as a reader, saying that in the past, “I didn’t read that well. My friends could read more better than I did,” and “now I read better than them.” He described how things had changed for him: “I was kind of not happy, but then I learned it [reading] from here, so now I do know how.”

By the end of the intervention, Dillon also thought of himself as a writer. Tanya and Jenelle agreed that becoming a more able reader helped to improve his ability to write and gave him more confidence in his ability to write. Tanya confirmed that “[for Dillon] to go to school to do reading, to do any kind of written work is better.”

Changes in disposition. Both Shelley and Tanya reported that Dillon’s mood had improved while he was attending The Reading Room but had deteriorated after the intervention ended. Shelley, his classroom teacher, attributed this negative change to events outside the classroom, the emotional turmoil she presumed he was experiencing as he began to visit again with his birth parents. Tanya attributed the changes to Dillon not receiving the support he needed in the classroom and to being urged to use strategies for
reading contrary to those he had learned and used successfully at The Reading Room. She thought the transition back into the classroom was a tenuous and difficult one for him.

Jenelle described The Reading Room as having become “a very positive place for him” and reported how his disposition in general had improved:

I think he was far less labile by the end…you could play games, you could gently tease him, you could gently josh him at the board when he made spelling errors, and he would smile, and laugh in response rather than shut down and get a very angry face and stalk off.

She added:

He would tease you back, and that was wonderful to see. He would let you win games, and I thought that spoke volumes about just how his ego is feeling stronger and how he feels . . . less fragile. It was really interesting to see those pieces come out aside from his reading.

Jenelle found it heartwarming to see these changes in Dillon: “seeing that sort of angry, sullen, withdrawn person begin to be quite joyful, and happy…you think—oh wow.” Perhaps Dillon said it best: “when I started coming here . . . it made my life better.”

**Summary of changes in Dillon.** As Dillon’s ability to read improved, so did his writing, his attitude towards reading, and his on-task behaviour. These elements might have been expected to contribute to improved learning in his school experience, but participants reported mixed observations and perspectives regarding his behaviour upon full-time return to school. However, all observations confirmed that while he was attending the reading intervention, he exhibited fewer inappropriate behaviours and
developed enhanced self-efficacy for academic learning, particularly in reading and writing. He became happier and was less volatile and labile. Learning to read was accompanied by improvement in all three domains for Dillon; the cognitive/learning, the behavioural/social, and the psychological/emotional domains.

Case Study 2: Logan

Introduction. When he began the intervention at The Reading Room, Logan was eight years old and in Grade 3, French Immersion. He attended the program at The Reading Room from October 2010 to January 2011, for a total of 50 one-hour sessions. Stacie, Logan’s mother, said that there was a family history of learning disabilities, including reading difficulties, so when she became aware of his struggles with reading and writing, she considered it necessary to have tests administered. Stacie described Logan as “struggling in reading, sounding out little bits—it was painful.” She perceived that Logan’s reading difficulties led to frustration and problem behaviours prior to the intervention: “by the end of the day…he's just so frustrated; and the frustration and acting out, when you tried to get him to do stuff, he showed a lot of anger, and frustration.”

All of his teachers reported that Logan was highly intelligent and that there was a clear discrepancy between his verbal ability and his reading and writing ability. Sydney, Logan’s English teacher, assessed his reading at the beginning of Grade 3 as being early Grade 1. The amazing aspect that teachers and reading instructors alike frequently made reference to was his uncanny ability to comprehend, despite his apparent difficulties with decoding (observation, October 27, 2010). Sydney described his reading: “It was so segmented …there was no flow to it, he was not a fluent reader at all even at that level. And yet . . . his comprehension was there, and in fact beyond, he could make inferences,
and make connections.” Math and science were Logan’s areas of strength, but as reported by Angie, also his math teacher, when it came to word problems, math would also prove to be challenging, because of the reading. Logan was formally tested with the results indicating that he was gifted with a learning disability. The speech and language pathologist who tested him at school “told us that he was the smartest kid that she had ever tested. She said she was blown away” (Sydney).

Sydney, who had known Logan since Kindergarten described him as being “a very timid, shy, uncertain, cried easily, reluctant participant . . . who needed lots of encouragement and kindness and softness.” Angie described him as “eager to please, pleasant, happy. . . . questioning, very inquisitive, doesn't have a whole lot of social skills for the group type activities, he would rather be on his own by himself.” Jalen described him as being “quite quiet, and he likes to follow the rules, and he is not disruptive at all.” Helen, one of his reading instructors had observed that “his approach to completing tasks is excellent . . . he didn’t have a problem with doing everything on the page . . . he would just do it, he's that kind of determined . . . methodical.”

**Changes in Logan—“my reading wasn't very good, and I really wanted to go, actually really wanted to go [to The Reading Room].”** Of the three boys studied, Logan demonstrated the most changes as he became a more able reader (Figure 5). Of the 15 potential changes related to improved ability to read, Logan demonstrated change in all but one; clear changes in all three domains. The changes most noted in Logan by the participants were the cognitive/learning changes; specifically those related to reading and writing achievement and his willingness to participate. Likely due to his high intelligence and his supportive upbringing, his self was relatively well intact prior to the intervention.
Figure 5. Changes observed or perceived in Logan as his reading improved (shaded areas).
so no changes were noted in self-esteem.

**Cognitive/learning changes.** Logan demonstrated academic changes in reading, spelling, writing, French, and even in math—specifically related to reading word problems in math. He was also described as having changed in his attitude towards school and reading, and in his willingness to attend school, and to participate.

*Changes in reading.* Logan’s reading and spelling ability were measured pre- and post-intervention, and the results are summarized in Table 9. This testing was done in English, Logan’s first language; however, his formal schooling since Grade 2 was in French Immersion. These results show that Logan made excellent gains in decoding, as seen by his improved ability to sound out non-words quickly and accurately, with more than a grade level improvement in the TOWRE. Logan also showed marked improvement in his untimed reading of non-words in the Woodcock-Johnson subtest, progressing from a Grade 1.0 level to a Grade 3.4 level. His fluency showed no improvement, although he demonstrated extremely high gains in his comprehension score—initially comprehending at a Grade level <1.0 and now at a Grade 4.2 level. The fact that Logan was able to achieve such a high comprehension score despite a relatively poor accuracy score indicates that his errors were of the small word type, rather than related to difficulties decoding the important words in the passage. Logan also made more than a grade level gain in his ability to spell.

Stacie started to notice changes in his ability to read early into the intervention. Once he started getting the strategies, or the “groundwork” (Angie) at The Reading Room, he was clearly able to apply these strategies to his reading, even though it remained “slow, and a lot of work” (Stacie). The first evidence of his improved ability
and willingness to attempt reading showed when he tried to read more signs for instance, at “the science and tech museum, walking through there, at the pool, and going into the change room.” His mother announced that “this whole world has opened up, [now] that he can read these things.” Stacie, the reading instructors, and his classroom teachers all believed it was important to bridge the gap between Logan’s potential ability and his poor reading—primarily because of his thirst for knowledge. As he developed strong and consistent decoding skills, his comprehension improved and became based more on what he had read than on what he surmised.

Sydney, Logan’s English classroom teacher, first noticed a change in his ability during a spelling lesson, sharing a strategy he had learned at The Reading Room: “up goes the hand and he knew it, like he knew it cold and he blurted it out aloud, and then he
even added details to it that I wasn't even going to include.” She went on to say that his score on PM Benchmarks (a leveled reading program) went from a 7 to a 20 and that, although he still lacked fluency and decoded haltingly, he could clearly comprehend everything.

Jenelle described Logan’s reading progression as “a steady, upward curve instead of great leaps”; there never was a “huge light bulb” moment. He was “very methodical, it wasn’t like he was particularly speedy and he still had a little ways to go in terms of rate, but in terms of his accuracy it was very nice.” He was very metacognitive in his learning and would often use self-talk to guide his thinking (observation, November 17, 2010). Jenelle observed that for him to be able to read a five syllable word like “communication” was rewarding as “that was a chunk he was quite thrilled to have because I think he felt like ‘this was the kind of words I should be reading.’” Logan wanted to improve his ability to read and write and liked to challenge himself. On an occasion when he was given the choice of easy or hard words to spell, he chose the hard words (observation, November 12, 2010). When Logan had completed the intervention he still had limited fluency which was going to continue to “impede him,” but “he was able to hold new code, which is a huge piece, really he held new code quite often day to day, and pulled it out of his memory in order to work with that” (Jenelle). She went on to say that his post-assessments were “very Logan” and clearly showed that “his comprehension has soared which is not unexpected, but he needs more work on rate, needs more work on accuracy.” Jenelle predicted: “I suspect he's one of those kids who will underscore and yet you know with verbal instruction… could do very, very, very well” and added, “I don’t worry about slippage. I don’t think he will lose. I do suspect
he'll continue to gain some, but it will be really interesting because given his potential IQ I think he should make some stratospheric leaps.” Even with the gains he had made, both reading instructors hoped he would continue beyond the 50 hours at The Reading Room so that there would be an opportunity to consolidate his learning.

*Changes in writing.* Even though orally Logan had always been very strong, his writing ability clearly improved along with his reading. He became more willing and more able to write progressively longer pieces, and he no longer needed a scribe. Sydney, his English classroom teacher, emphatically described the biggest change she saw in Logan: “his willingness to tackle written work.” Prior to the intervention, “he really didn’t [write] . . . or you couldn't decode what he was writing.” However, subsequent to the intervention “he'd be one of the last ones to finish the work, but it would be done, he would do it.” Sydney proudly presented one of Logan’s final pieces of writing:

*And I'm going to tell you a story that happened a week ago.*

*It starts with me sitting in my cupboard, washing my nose,*

*when something threw open the door, grabbed me and another box,*

*and jammed what looked like a pointed stick into a piece of wood, with my nose.*

*The stick bent, and the thing pulled it out with my horns.*

*Then he went away finally. I grabbed some bricks and quick drying mortar,*

*built a super thick brick wall with a hole just big enough for me to fit through.*

*Now I can enjoy not having my nose banged and my horns pulled!*

(Titled: “I am a Hammer”)
She went on to say that this was an assignment he did at the end of the school year, and that she “would not have had that at the beginning of the year,” he might have got “maybe five or six words on one line. He wouldn't have done it.”

Changes in math. Angie, also noticed improvement in Logan’s ability to complete word-based problems in math—prior to the intervention she would read the problems to him, “then very quickly he was able to do the work.” Following the intervention, however, he was able to read the questions himself for the most part, and was more able to write the word answers in sentences by sounding out the words with the phonetic strategies he had learned.

Changes in French. Logan’s two French teachers (Angie and Jalen) and his mother (Stacie) commented on his improved ability to read in French as well. Teachers noted that he applied the reading and spelling strategies he was learning at The Reading Room to their classrooms, in both English and French. As a result, his ability to read and to write improved in French. Angie, his French Immersion teacher, said that in the past he would give up trying to read challenging text, saying, “I can't read that” but “now he makes the effort. And he will muddle his way through some of the French . . . he would really work at decoding the words on his own, and then he would just look for confirmation.” She became tearful adding, “He understands what he's reading . . . it's opened up a whole new world.”

Jalen, Logan’s French classroom teacher, agreed saying that she no longer had to keep directing him back towards the words, “he was just reading it. And then if there was a word he stumbled on, then he worked at it, and he worked it out.” Just before Christmas, near the end of the intervention, she tested his reading ability and was
“excited” announcing to Logan, “you can read!” and she went on to say “I wanted to hug him, but he's not that kind of guy—I patted his back, you know, good for you!” Although he was still not reading at grade level, following the intervention he was reading at a level near the end of Grade 2 in French—considerably higher than the Kindergarten level with which he began Grade 3. Jalen reported the biggest impediment to Logan’s ability to read and write in French was his limited French vocabulary. For example, he would ask for the French translation for specific words such as “shipwreck” and “graphite.” Logan described trying to apply the decoding strategies to French “I'm also working on really French reading and that is…I needed to improve on my English, but more probably, more on my French because I was doing French reading in school.”

Changes in attitude towards school. While all three of Logan’s classroom teachers thought he enjoyed school and never hesitated going, Stacie, Logan’s mother saw a different side: “He hated it. He definitely verbalized many times that he hates it. I can't talk about school, and I mean he hates! He's pretty verbal and clear that he did not [want to go to school before the intervention].” She went on to say that “the getting out the door was the bit of a nightmare, running, and hiding in the yard” and, even the reward system she set up (“out of desperation I'll tell you”), soon had no effect. Following the intervention, getting Logan to school became less of a struggle, “It’s easier, it's definitely . . . he's not hiding in the yard, he's not hiding under the bed,” and she had not heard “I hate school in a while.”

Changes in attitude towards reading. Stacie also reported that Logan’s attitude towards reading was “much better.” She went on to say “I think he's much more willing, and it's not so painful, and daunting” and “sometimes he will say ‘what's that sign say?’
and I'll say, ‘well why don’t you try and read it?’ [and] instead of ‘oh whatever,’ he will try.” Helen, one of the reading instructors, said that the change she had noticed was related to enjoyment: “more of an excitement about the material because of course it’s more interesting material and it's more interesting and enjoyable for him.” Jenelle agreed and described Logan at the end of the intervention: “I think it's something he wanted to do, I think at the end of the session . . . when you put the book in front of him . . . he was willing to do it and walked his way through it quite methodically.” She reported that his attitude towards reading “did change in the sense that he was willing to sit down with books that I know he would have had no success with previously” and that “he began to tire less with greater volume which tells me, okay, it's becoming less effortful which for him I think is a big, big piece.”

All three classroom teachers described a change they noticed in Logan’s willingness to read, even his willingness to pick up a book. In Angie’s view: “now . . . he's taking more chances” and he’s “really making that effort now to read. He's becoming more independent that way.” She attributed his gains in reading to him “taking the risks and trying more. And I have noticed that, since he's been going to the program, he's increasingly been doing that.” She also observed he was reading more—often picking reading over doing exercises, something he did not tend to do in the past. Jalen agreed, and described how in the past he would pick a book to read, and would simply look at the pictures, and not even attempt to decode the words. Now, she finds that he “is really trying” and actually reads.

Changes in willingness to participate. Logan’s English classroom teacher, Sydney, first noticed a change in Logan’s participation during a spelling lesson when he
confidently shared, (and continued to share) the strategies he had learned at The Reading Room. His French immersion teacher, also found him to be “more willing to work in a group.” Jenelle, one of the reading instructors also found him to have “more willingness to go along with things you knew he didn’t particularly want to do.” For example, when it came to spelling, “there was less balking, there was less balking at volume . . . that's very positive.”

**Behavioural/social changes.** Logan demonstrated behavioural/social changes particularly in areas related to his on-task behaviour and avoidance behaviours. Several participants also described changes in his social competence and Stacie reported a reduction in problem behaviours at home.

**Changes in on-task/attention, and avoidance behaviours.** In the school setting, he was generally considered to be on-task, compliant, and cooperative. His teachers agreed that, when work was being done orally, he was completely attentive and interacted well, but this usually changed when it came to seatwork. Angie, his French immersion teacher added that he was always “on task when he really understands what it is that he's supposed to be doing, and if it’s something that's of interest to him, and the [writing] expectations aren't too great.” Jalen, his French language teacher, described how, when it came to seatwork, he would find ways of avoiding the task, such as repeatedly sharpening his pencil. During the intervention, Helen described Logan as being “attentive and on-task” and had observed that “his approach to completing tasks [was] excellent, he wants to complete everything.” She went on to say that he was “pretty much an ideal kid…as far as going through the work and doing the sheets, he would just go, and go practice that . . . it's like a dream.”
All three classroom teachers and Jenelle reported that Logan became more attentive during and following the intervention. Sydney described the change she noticed: “he was often looking around . . . not as much towards the end. Oh no, there was a huge improvement after The Reading Room.” Jalen observed Logan was “less distracted, and more willing to do and try. I think he wouldn’t give up as easily or just stare off into space.” Although Jenelle had described Logan as being “pretty darned focused,” she did notice a change in “the volume he was able to handle at one go, before he needed a change of task.” For example, “instead of reading two sentences on the page, you could get through six sentences…his attention span or his ability to work through the task extended over the course, yes absolutely.” Jenelle described how she had also noticed fewer avoidance tactics, “there was less of the pencil playing, paper clip twisting, dropping things on the floor deliberately, that kind of little messing around all the time. There was less of that by the end.”

*Changes in social competence.* According to Logan’s French Immersion teacher, Angie, he would usually prefer to play and work independently or perhaps engage in conversations with adults. Whenever group work was required in class or in gym, she would have to “push him a little bit because he's very independent.” However, she did notice that “[in gym] he's getting more involved…he's becoming more part of teams when we're doing group activities” and during group work “he's becoming more [a part] of the group.” She went on to say, “he's part of the class. He's interactive” and he is “more willing to work in a group.” She added that Logan had joined the running team which she thought was “great for him” and “although it's an independent sport, he's part of a team, and that makes him feel good.” Furthermore following the intervention, in the
schoolyard “he's interacting more with the other kids, he's not so much on his own, by himself.” That being said, Angie reported that Logan still would prefer to work independently if given a choice, something she describes as “his nature.” Jalen described him similarly: “he likes to be alone” and “he isn’t really very social with the other kids. I mean he doesn’t like to work with a partner really.” However, she did feel that “he is getting better, I think, socially with interacting with other kids.” His mother also commented on a slight, but favourable, change she had noticed: “I think that there's some improvement. . . . I think that he's a little bit happier, and I think some of that must [be related] socially too the way that he's starting to find a bit more of a niche” although she added a qualifying statement: “he's by no means a super strong social kid to this point, and he's not . . . I don't think he'll ever be. No, he's not a team hockey . . . kind of kid.” With a smile, Jenelle described their parting on his last day at The Reading Room: “he did give us big . . . he gave us hugs which I thought - that’s interesting because he's not a physical child, that way. So that was very nice.”

*Changes in inappropriate behaviours.* Logan’s behaviour differed at home and at school. Angie described him as being “in general, overall…a very, very nice boy, not defiant or oppositional or disrespectful in the classroom.” She went on to say that he was “a good child. He's a pleasure to have in class. He's not a behaviour concern. He's not, he doesn't cause any problems, he's very quiet.” In contrast, his mother Stacie, described his at-home behaviours as a bit more challenging, but nothing she viewed as being outside the norm. They had battles about his homework, getting him to school and, at times, his behaviour at home was quite disruptive and aggressive. Stacie did, however, describe some changes she had noticed in Logan since attending The Reading Room: it
had become easier to get Logan to school in the mornings, “he hasn't run and hid in the yard for a while so that's good;” and the end of the day was more relaxed as well, “he's not quite as [volatile] . . . you don’t feel [now] that he's this little bomb waiting to explode.”

**Psychological/emotional changes.** The psychological/emotional changes Logan displayed included changes in his emotional well-being and in empowerment. Although he was reasonably confident when he began the intervention, several participants described an improvement they had noticed. He also started to express that he thought his reading ability had improved, suggesting increased self-efficacy for reading. And although he was not very demonstrative in his emotions, he appeared to become a little happier and more relaxed as he progressed through the intervention. Logan also became more independent, and was better able to self-advocate.

**Changes in general self-efficacy.** Most references to confidence were associated with his increased self-efficacy for learning, but his mother and Angie also felt his general self-efficacy had also improved. Stacie, described her son as generally being “more comfortable and more confident” following the reading intervention and Angie believed that confidence was the greatest benefit from his learning to read, adding that he “actually made quite great gains I would think confidence-wise.” She gave an example saying that he was more ready to ask for help both from his teachers and his peers, and that he was more “willing to take those risks.”

**Changes in self-efficacy for academic learning.** During the post-intervention interview, Logan described his reading as having improved: “I do know how to read better than I used to know how to read.” He elaborated saying that he thought he “could
finish the Harry Potter book, but in a very long time . . . I probably couldn't have done that before without like it taking like two years (chuckles).” He admitted that he might read it at a slow rate, but that he expected to now be able to do it. He also described school in general as being “a little easier.”

Jenelle described Logan as having developed “a sense that the world is quite understandable if you can just get the pieces put together and I think he chunked away and got the feeling like, okay, I've got those pieces sorted out.” When he left The Reading Room, he gave the reading instructors a card that he had made himself saying, “thank you for helping me learn to read.” He was clearly thinking of himself as a reader. Jenelle viewed Logan as leaving with a newly developed “sense of pride.” She said “he felt quite pleased with himself. . . . I think he felt pleased that this was something that he was accomplishing.” Helen concurred adding that “there was . . . an increase, not just in the basic reading ability, but also his confidence level in reading would have increased, and I think those are the two key ones with him.”

All three of Logan’s classroom teachers referred to a change in confidence they had noted in him. Sydney, his English classroom teacher, described this change: “Orally he was always a very confident boy but, as I said, after the reading intervention, he participated in the language skills component of the program with a lot more confidence.” Angie agreed, saying, “he's more confident in his abilities. He has that knowledge and he knew how to express it verbally, but in written form he's much more confident.” Jalen considered Logan to be “more confident I would say, and he has more skills to attack a word; like if he doesn’t know what it is” and she added, “when we break down our spelling words into syllables, he can do that, he feels confident at that and does it.” Both
Sydney and Angie reported that, as “his ability improved, he saw himself succeeding at reading, like I said he's a smart kid, he figured it out” (Sydney), and “he's more confident in his abilities” (Angie). Angie suggested that, as a result of this improved confidence, he became more willing to initiate and persist at a task; “his confidence, and . . . to keep trying, like to persevere, and keep going, and know that he can do it.”

Changes in disposition. Although Logan was not very demonstrative in his emotions, both his mother and Jalen, his French language teacher, described a small change they had noticed: “he's a little bit happier” (Stacie) and “I think he is happier a bit” (Jalen). Stacie added, “I think that his general attitude or mood seems better.” Logan’s French teacher, Angie, considered him to be “more positive, more risk taking, just in general . . . more positive.” Helen, described him as becoming “more at ease in the sessions, and willing to chat and share.” Jenelle described Logan as being “a fairly uptight, tightly wound little person” and thought that perhaps it was “due to not doing very well.” She also noted that: “all the playing with and manipulating objects and that sort of acting out stress with his hands and grabbing things and grabbing the tiles . . . that diminished over time too . . . I think he relaxed.” Jenelle further described the change she had noticed: “a less burdened person by the end . . . less of that . . . physical hunching, that lack of eye contact, that was characterized at the beginning, more lightness, more chuckling, more jokes, more social ease than I saw at the beginning.”

Changes in independence. Although Logan was characteristically independent, two of his classroom teachers, Angie and Jalen, reported that his independence, specifically related to reading, had improved. He began to make the effort to read on his own (Angie), and he no longer needed to rely on “someone else to read it to him” (Jalen).
Jalen elaborated saying that he no longer just looked at the pictures, and that he could “find the information himself now, and I think that bridges a big gap, and that was missing.”

Changes in self-advocacy. Logan increased in advocating for himself and, as his reading improved, he more readily asked for help from his peers, especially in group activities. According to Angie, “the confidence has probably helped because he's more confident, so if it's a group assignment, and there are words on the page, he's more able to read them, and to say for himself, ‘can you guys read that out loud . . . because I'm not very good at reading.’” Angie described Logan as more willing to take risks: “he's being more of an advocate for himself . . . more assertive that way, recognizing that he is smart, but also that he has some challenges.” Jalen agreed, saying that, although he has always been independent, and prefers working alone, “he doesn’t mind now, he says ‘I will work with the partner if they read for me.’”

Summary of Changes in Logan. When Logan started to make gains in reading, participants noticed a series of changes they thought evolved along with his developing ability. Logan was perceived as having changed in all three domains, and all but one of the 15 potential elements of the model. Despite his challenges with reading, Logan had managed to maintain his self-esteem and therefore no change in his self-esteem was reported by any of the participants. With changes reported in his academic learning in both English and French, a better attitude towards reading and school, improved behaviour at home, and improved emotional well-being as well as a sense of empowerment, learning to read was an important and powerful achievement for Logan.
Case Study 3: Mason

Introduction. A psychoeducational assessment indicated that Mason had weaknesses in reading, writing, and processing speed and was identified as having a language-based learning disability. Mason was also diagnosed with a depressive disorder. Mason was in Grade 4 and was nine years old when he began at The Reading Room. Allyson and Jenelle were the two reading instructors that provided the instruction between January 2011 and June 2011 for a total of 72 sessions.

In Grade 1, Mason’s mother noticed he was struggling with reading. When he continued to struggle in Grade 2, she pushed to have him assessed. However, with the school wait-list, he wasn’t assessed until Grade 3 and did not start at The Reading Room until Grade 4—at which point he was reading in a limited way. According to Jenelle, Mason could decode single syllable words “adequately,” but he did not have any multi-syllable word attack skills, and he lacked prosody. Jenelle described his reading as “fairly fatiguing, lots of errors, lots of misreads, substitutions and insertions, so really reading was not an enjoyable experience or a fulfilling experience, and I think it was quite frustrating.” According to his classroom teacher, Sandra, writing was also effortful for Mason describing it as “such a chore, and it's messy;” she would often have to ask him to re-write his work because it was illegible.

Sandra described Mason as “Just a great kid” who had a “great sense of humour” and was “smart enough to understand sarcasm,” which she appreciated. In her view, he was not achieving his potential and was deliberately very quiet with a “please don’t notice me” purpose. Similarly, Allyson considered Mason to be “very quiet, very obedient, always did what you asked, but…usually looked like a pretty sad, little kid.”
She noted that, besides having difficulties with dyslexia, language, and a weak vocabulary, “he also sometimes just didn’t plain remember straightforward facts … [like] whether it was three kids, or red balloons or green balloons or what.” The other reading instructor, Jenelle, described Mason as “well behaved, flat liner emotionally or so guarded that he lets very little out, helpful, cooperative, kind, interested, curious . . . an easy going child, and a watcher not a participant, and yeah, also shutdown.”

**Changes in Mason—“he just seems like a happier kid.”** Figure 6 depicts the changes that study participants observed or perceived in Mason as his reading improved. Mason exhibited changes in all three domains: cognitive/learning, behavioural/social, and psychological/emotional; and more specifically, in eight of the potential 15 changes in the model related to improved ability to read. His most noteworthy changes were in his emotional well-being; specifically his general self-efficacy, and his disposition. He also became more willing; more willing to read, more willing to write, more willing to initiate and persist, and more willing to take risks.

**Cognitive/learning changes.** It became evident during the reading intervention that one of the areas Mason particularly struggled with was reading comprehension. The first 50 hours of intervention were focused on developing his decoding strategies, particularly for multi-syllable words, and on increasing his vocabulary. Following the summative assessment at the end of the first 50 hours of his program, the reading instructors suggested that additional instruction in comprehension strategies would greatly benefit Mason. Consequently he was given an additional 22 hours of instruction to consolidate and increase his decoding skills and to teach him a specific strategy (visualize and verbalize) to improve his comprehension.
Figure 6. Changes observed or perceived in Mason as his reading improved (shaded areas).
Changes in reading. Although Mason made gains in reading, they were not large and were mainly in improved decoding skills (Table 10). Over the period that Mason was at The Reading Room, in terms of fluency, he gained four months in his sight word reading efficiency and almost two grades in his ability to decode non-words phonemically according to the TOWRE. The Woodcock-Johnson indicated a four month gain in untimed word reading and a grade level increase in non-word reading. Mason’s fluency increased slightly because of a slight increase in his rate—his accuracy remained the same because he continued to make small word substitutions (e.g., for a, the, of, or, and). He also occasionally chose a visually similar word (e.g., “tied” for “tried” or “spot” for “stop”). Comprehension remained an area of difficulty for Mason as he continued to make comprehension errors on passages he had read reasonably well. Although slight, there was a drop in Mason’s spelling ability between his pre- and post-assessments.

Sandra, Mason’s classroom teacher, thought that, because at the end of the school year Mason was “still a slow reader,” he had not made substantial gains in reading. Allyson agreed: “Overall I don’t think he's had a huge difference in his actual ability in reading.” She went on to say that although “he hasn't been a kid [for whom] things have taken off, he has continued to progress.” Even though he continued to struggle with his reading and still lacked fluency and comprehension at the end of the intervention, Allyson noted that his decoding skills had improved and that he “definitely knows better how to figure out words.” Jenelle described his gains in reading: “Certainly his fluency improved—tremendously, you know those timed readings . . . the fluency picked up, the errors decreased, although they didn’t disappear, and certainly multi-syllable word attack vastly improved.” She also reported that he “made some prosody gains, but again
Table 10

*Mason’s Pre- and Post-Intervention (after 72 sessions) Reading and Spelling Scores*

<table>
<thead>
<tr>
<th>Skill Assessed</th>
<th>Instrument</th>
<th>Pre-Intervention (Grade Equiv.)</th>
<th>Post-Intervention (Grade Equiv.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sight Word Efficiency</td>
<td>TOWRE</td>
<td>2.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Phonemic Decoding Efficiency</td>
<td>TOWRE</td>
<td>1.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Letter-Word Identification</td>
<td>Woodcock-Johnson</td>
<td>2.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Word Attack (Non-Word Reading)</td>
<td>Woodcock-Johnson</td>
<td>2.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Reading Rate</td>
<td>GORT-4</td>
<td>1.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Reading Accuracy</td>
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<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Reading Fluency</td>
<td>GORT-4</td>
<td>1.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>GORT-4</td>
<td>2.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Spelling Phonetically Regular Words</td>
<td>DST: Spelling</td>
<td>6.1</td>
<td>5.3</td>
</tr>
<tr>
<td>Spelling Phonetically Irregular Words</td>
<td>DST: Spelling</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Overall Spelling</td>
<td>DST: Spelling</td>
<td>4.7</td>
<td>4.3</td>
</tr>
</tbody>
</table>

TOWRE: Test of Word Reading Efficiency
GORT: Gray Oral Reading Test
DST: Diagnostic Spelling Test

whether that sticks, I doubt it . . . [because] that was really only with prompting.” Jenelle went on to say that, although “getting things off the page seemed to go more smoothly,” with the challenging novel assigned at his school, it became “clear that he could get things off the page . . . quite nicely, but he wasn’t understanding.” Jenelle was also concerned about his lack of vocabulary, particularly because, at his grade level, vocabulary was no longer explicitly taught.

Krista, Mason’s mother, noticed a definitive change in his ability to read around the time of his thirtieth session (30 hours). He was “reading better,” he was “sounding out the more difficult words,” he was “becoming more fluent,” and had “less of that choppy reading.” When asked how he felt about his reading ability following the intervention, Mason said, “I guess it’s easier” and he explained that what helped him most was learning.
about “different types of sounds and everything,” and how to “put them [words] into chunks”—that was something he didn’t know how to do before.

Changes in attitude towards reading. Mason’s classroom teacher, the two reading instructors, and his mother all commented on what they perceived as a clear change in attitude towards reading. Sandra believed that, even though he still did not enjoy reading, by the end of the intervention he was more “willing to do it, in front of the class even.” His mother agreed: “he's more receptive, he'll read with encouragement. But he doesn’t have a love for reading.” In the past it was a struggle to get him to read for seven minutes at home, “now he'll read seven minutes without a struggle” but she was unable to get him to read for 15 minutes. Sandra reported that “his attitude [toward writing had] improved a lot” in that “he’s willing to do it [write] now.” Allyson was pleased to see Mason’s change in attitude and his willingness to persist:

he was very much a turned off kid. If you asked him any question, his answer was ‘I don’t know’ was his default, and very afraid to attempt an answer . . . one of the things that I found most rewarding with him was that he would answer then, and he would try, and he wouldn't always be right, but he would give it a try rather than starting with ‘I don’t know,’ and I think for a kid like Mason, that’s a huge step.

The two reading instructors described Mason as “more willing to engage, and willing to read longer passages” (Allyson) and as wanting “to stick out difficult material; that was a big change” (Jenelle).

Changes in willingness to participate. Krista mentioned that his classroom teacher had reported that he was participating more in class: he would “put his hand up more,”
and “he's more interactive, takes more initiative.” Sandra, his teacher, agreed and reported seeing a more willing Mason following the intervention: “I'm seeing . . . the willingness to do more . . . he was always willing . . . but he’d kind of grudgingly do it . . . let you know by his body language that he didn't want to do it, [and] that just gradually went away.” Sandra observed that, following this intervention, Mason volunteered to read, a distinct change from the past.

**Behavioural/social changes.** Mason’s attention and on-task behaviour had never been a concern (observation, February 16, 2011). Jenelle described his on-task behaviour as being “perfect” but not ideal. She reported that he was “absolutely willing and cooperative” but, because of his lack of enthusiasm, described as “flat-lining,” it was difficult to say whether he was engaged. At school Mason’s compliance had not been a concern for his classroom teacher who described him as always having been “a quiet kid that does whatever he’s told.” Allyson agreed that Mason “was a very obedient child [who] wouldn’t ever say, no, or I don’t want to.” His mother, however, noticed an improvement in his behaviour at home, especially when she asked him to read, saying that it was “less of a struggle” after the intervention.

**Changes in social competence and inappropriate behaviours.** Mason demonstrated changes in his social competence, problem behaviours, and aggressive behaviours. Sandra described an improvement in Mason’s social behaviour:

He didn’t talk to me at all, during the fall … He just wouldn’t say anything about anything … He’s still not a chatty kid, but we actually have the odd joke . . . I wouldn’t say we have conversations, we joke around now.
Krista, his mother, found that he was getting along better with his siblings and saw what she called “a big behaviour change.” His sisters had also commented saying, “He’s not as difficult to get along with” and his mother said, “He’s doesn’t fight with me as much, and I relate it to The Reading Room.” She elaborated saying that, earlier, his behaviour was “hugely affecting the family” because he would attack or hit his younger brother, Tristan, “bully” him “to the point where Tristan was getting scared of him.” Krista described how the family had reached a breaking point with Mason’s behaviour shortly before he began at The Reading Room: “it was scary because he was doing it…towards me, towards his dad … for him to come out and start hitting me for no [reason]—again in his mind he’s mad at me, so he’s hitting me.” She believed that these behaviour issues prior to the intervention were “related to the reading … just increasing—more frustration . . . maybe more difficulties trying to keep up in school, coming home tired and that’s where we really noticed a big difference in him, was that Grade 3.”

Krista described his behaviour at home, following his enrollment at The Reading Room, as being “so much better”; “he’s not attacking his brother at all.” She interpreted his inability to verbalize the problem as a trigger for the earlier outbursts. She recalled asking Mason to turn off the TV and do his homework when “he went ballistic on me, and that’s when he started throwing things at me, and hitting me, and … like I said this was around November, December.” By April, following the intervention, these behaviours had clearly abated and all the family members had noticed the change in Mason.
Psychological/emotional changes. Mason demonstrated changes in three important areas: general self-efficacy, self-efficacy for academic learning, and disposition—all areas showing improvement.

Changes in general self-efficacy. The changes most consistently referred to by all participants related to Mason’s emotional well-being, particularly his improved general self-efficacy or confidence, as the interviewees called it. Krista reported that the biggest change in her son was in his confidence; she described him as having more confidence but not more confidence [just] with his reading but also in his general behaviour . . . if we go to sports, he's showing more confidence in his hockey, where he's taking the puck down the ice by himself. Again it was around April, May, June; it wasn't before that . . . and then he scored a few goals which he never did before. And then he joined a soccer, a competitive soccer team which again, back in January he [had] said he's not doing soccer this summer . . . So, definitely confidence with his sports, and it's the first time.

Krista agreed with the classroom teacher and reading instructors that his reading still needed improvement, but she was very happy that: “The greatest advantage of The Reading Room to me is…it’s built up his confidence so that he can try harder in reading, try harder in … whatever.” She was optimistic for the future, “once he’s got his confidence then I think we'll see even more gains in his reading.”

Sandra also reported that he had “gained in confidence a lot” and was pleased with the change:

I'm very, very proud of him. I have seen huge strides this year. In September he was very quiet, kind of sullen, didn’t want to participate in anything not even
athletics … He actually volunteers once in a while to do things in class. He plays soccer at recess now.

She went on to say, “it's not so much his reading ability that’s changed…because he’s still a slow reader. I think the biggest change is his confidence, and his attitude towards everything.” She attributed his improved confidence and willingness to “the reading intervention] because he is feeling like he is capable, and he is feeling like he can do as much as his peers.” She described Mason’s main benefit from the The Reading Room intervention as: “Confidence, and that affects his whole life. It’s affected how he interacts with his peers. It’s affected how he acts in class. It’s just—it’s opened up a whole new world for him.”

*Changes in self-efficacy for academic learning.* Mason’s self-efficacy for learning also changed, as reported by all participants. He now believed he could be successful: he believed he could read and had strategies to tackle unknown words. After about a month at The Reading Room he started to appear more confident in his ability and would respond more readily to questions asked (observation, March 7, 2011). He said reading was “easier” (Mason). It appeared that this positive change in self-efficacy enabled him to work through the difficult novel at school, to try sports he hadn’t tried before, and to be a participating player on the hockey rink. Mason’s mother spoke about his “confidence with his reading” and Sandra described him as “feeling like he is capable.” Allyson agreed and elaborated: “I think it’s sort of been as much as anything his belief in himself” and “I think without a doubt he became more confident in what he could do, and what he could attack.” She concluded by describing the change as “a belief that he can do it a lot of the time too, that he can be successful, and that it’s worth it to keep trying.”
In Jenelle’s view, the most obvious indicator of his increased confidence was his willingness to tackle the challenging Grade 4 classroom novel:

That [willingness] told me that at least he feels he can, and…that he wasn't shoving the book away saying ‘no, no I don’t want to do it’[and wasn’t] balking at it, you know doing a lot of behaviours that told you ‘this is just too hard.’ Jenelle attributed his persistence to the fact that “he felt better that he could do it. I think …he did leave sessions feeling at least competent or having gained some sort of mastery.”

Changes in disposition. All participants noted a clear change in Mason’s disposition. He was described by his mother as being “more cheerful” with improvements in both his mood and his attitude. Allyson described the change she saw in Mason over the time he was in the intervention:

I saw a kid who would answer questions, who would engage more, who would laugh at a few jokes. Mason was very serious about stuff [and] he never smiled in the beginning … I just saw him starting to loosen up that way and [have] some moments of enjoyment.

Jenelle described Mason as more relaxed by the end of the intervention with “more smiles and smirks,” and “we saw some attempts at humour, we saw some joking which I did not see for months.” In her view these may have been “small” changes but “they were vast improvements relative to how he had been.” With both reading instructors there were clearly more smiles and chuckles as Mason seemed to relax and even enjoy being at The Reading Room (observation, February 24, 2011).
Sandra, his classroom teacher, was happy with the change she saw in Mason. When asked how a typical day at school had changed for Mason, she responded, “He smiles a lot more. That’s the biggest difference. He’s always been punctual. He’s always been dependable. He’s always done what he’s told, but he’s happier to do it, and…he just seems like a happier kid.”

**Summary of changes in Mason.** Although Mason had demonstrated gains in both the cognitive/learning and behavioural/social domains, the change emphatically commented on in the interviews was the change in Mason’s emotional well-being—specifically his improved confidence and disposition. Although no-one specifically referred to his depression, most participants described him as a much happier person. Both his mother and classroom teacher described his general self-efficacy as extending beyond the classroom and into sports—he had become more confident and would now take the puck and even scored a few goals, something he would not even have attempted before.

**Discussion**

This study reports three cases of three struggling readers, each reported by adults in their lives to be experiencing concomitant mental health concerns. The context was somewhat different for each but all three attended an intensive, supportive reading intervention and had some similarities in their outcomes as they learned to read (Figure 7). Fourteen of the 15 elements within the three domains of the model were represented by a least one of the cases, only self-esteem was not explicitly described by the participants as having changed. Five of the elements were reported to have changed for all three boys: in the cognitive/learning domain reading achievement (which one would
Figure 7. Overlap of changes related to improved ability to read for the three cases.
expect) and attitude towards reading changed, in the behavioural/social domain inappropriate behaviour changed, and in the psychological/emotional domain self-efficacy for academic learning and disposition changed in all three cases. These findings suggest that the three domains within the model are applicable in these three cases but that different elements within the domains are applicable in different cases.

The three students selected as the case study participants for this research were selected as a sample of convenience as well as a sample that could be considered to represent the range of young struggling readers attending The Reading Room. The first three students who met the inclusion criteria—of reading at least one year below grade level and whose their parents had expressed a concern regarding their mental health—were considered, and then selected because of the range that they represented. A diverse group of three boys was recruited. Although highly variable in their backgrounds and achievement profiles, these three students were considered by Allyson and Jenelle to be typical of their clientele; they were boys, they were in Grades 2 to 6, they had experienced sustained failure in reading with all reading well below grade level, and could all be described as underachieving and had become either angry (Dillon), reticent (Logan), or sullen (Mason). Two of the three participants came from supportive and “book-rich” home environments, while Dillon had experienced familial challenges in his early years until his aunt adopted him three years prior to the reading intervention. While neither Logan nor Mason were described as having any problem behaviours by their classroom teachers, both mothers described difficulties they were experiencing at home. In contrast, Dillon had been identified as having a behaviour exceptionality and was hostile and sometimes aggressive in both his school and home environments. Of the three
boys, only Mason had been identified with a mental illness (depression), but the parents or guardian of all, had expressed a concern for their mental health. With regard to their reading ability, Dillon and Logan struggled with decoding, although because of Logan’s intelligence, he was often able to compensate and make inferences when it came to comprehension. In contrast, Mason, although he was not able to decode efficiently, struggled more with comprehension. With this range and variability, the three case study participants in this study represented a broad spectrum of characteristics as well as the varied nature of young students who might experience mental health challenges alongside their reading difficulties.

The three ethnographic case studies focused on the experiences of three struggling readers, all of whom were boys, and the perceptions of the parents of two and a guardian of the third, their classroom teachers, the three reading instructors, and the researcher—all of whom were female. Although two of the reading instructors also participated in the previous study, all the students, their parents, and their classroom teachers were new to this study. All observers of the three focal participants individually and collectively provided robust data in terms of depth and breadth. Because of the daily one-on-one nature of the intervention, the frequency of my observations, and the cumulative input from all the participants, we were able to get to know the three boys quite well. Although only three cases were examined for this study, the combined effect of the variation between the three case studies, as well as the in-depth accounts garnered for each case allows for a robust evaluation of the model.
The Model

All of the elements in the three domains but one (self-esteem) were supported by change reported for at least one of the three participants, but more frequently by two and, in five instances, by all three of the boys. As the intervention targets reading difficulties, it is not surprising that the participants showed improvements in academic achievement. Emotional well-being was the dimension in which changes were most consistently acknowledged by the participants, suggesting an important and recognizable link between improved ability to read and mental health.

The model from the previous study seems to be generally validated by the rich accounts of the three cases reported in this study; only one of the elements of the model was superfluous. For Logan there were two changes that were reported that were not represented in the original model: improvement in math achievement and improvement in French reading and writing. This suggests that math, especially when related to word problems, can also improve, and that learning to read in English has a positive transfer to reading (and writing) in French. When creating the model in the initial study, there was one student named Amber who continued in French Immersion who also showed signs of improved reading and writing ability in French following the intervention. A possible refinement to the model then would be an additional element in the cognitive/learning domain under Changes in Academic Achievement to include other academic changes such as in math or French, especially for students in a French Immersion program where reading in French is a dominant part of their curriculum. Because only one participant in each study had been previously diagnosed with a specific mental illness, a separate element was not assigned to the model. Any clinical diagnosis of mental illness such as
anxiety disorders or depression, when evident, would fall under the disposition element in the psychological/emotional domain as the model has been presented this far.

A caveat to the model should be offered; when an area of difficulty does not exist prior to the reading intervention, one could not reasonably expect to see improvement demonstrated subsequent to the intervention. For example, because Logan had managed to maintain his positive self-esteem despite his challenges, there were no perceived signs of improvement subsequent to the intervention as there was not an initial deficit in that area. Similarly, if there is a pre-existing area of difficulty, such as depression or anxiety, it appears that it may be positively impacted as was demonstrated in the case of Mason, perhaps because this is an area in which there is much to be improved. Although self-esteem was not mentioned in any of these three cases, it is possible changes occurred but were not expressly mentioned by the participants. Such changes may not be apparent until more time has elapsed following the end of the intervention. This might explain why the adults in Study 1 reported such changes for eight of the nine participants, in the model creation study. Because it was such a robust finding in the first study, it has been retained in the model and is still considered to be a potential element of change. This is an issue to be resolved in further research.

The Importance of a Supportive Learning Environment

By the time Dillon, Logan, and Mason began their intervention at The Reading Room, they had all sustained repeated failure over several years. Dillon was described by Jenelle as being “fragile” and “volatile,” Mason was described by Allyson as a “pretty sad little kid,” and although Logan’s teachers hadn’t noticed, his mother described him as showing “a lot of anger and frustration.” With the exception of Logan, the other two boys
came to The Reading Room fairly shut down; not wanting to learn and not expecting to learn. The intervention was deliberately designed to meet the needs of the whole student; especially initially, all instruction was given in a way and a level to ensure success. Only once students starting trusting the instructors and the system, and started to believe they could learn to read, did the instructors begin to scaffold lessons. The reading instructors were aware of the importance of developing a relationship with their students and were keenly in tune with their emotional states, both from day-to-day and within lessons. This warm and caring environment of complete acceptance dissolved barriers constructed over the years, and allowed learning to occur. Humour was also consciously interjected, establishing a relaxed and enticing platform for learning. Similar findings were described by Gentry et al. (2011) as a caring and nurturing climate, necessary to enhance learning.

The Role of Self-efficacy and Perceived Success

In reviewing the gains in reading made by the participants, only Logan made substantial gains in comprehension, transitioning from a comprehension level below Grade 1 when he began the intervention to a Grade 4 level upon completion. Dillon showed some improvement, a grade level gain, while Mason showed virtually no improvement, yet all three participants showed gains in various elements in all domains of the model. A potential explanation is improved self-efficacy for academic learning. All three participants were perceived as having made gains in their self-efficacy for learning—they all believed in their potential to succeed in reading. As the absolute gains made by two of the participants were either small or negligible, it is likely that the nurturing context within which the intervention was given was sufficiently supportive, with small successes celebrated; they believed they could read better than they had
before. According to Bandura (1997), this improved perception of their likelihood to succeed could facilitate further learning through greater task initiation and persistence. Furthermore, according to Quiroga and colleagues (2013), self-efficacy is a mediating factor related to mental health. Whether it was actual gains made in reading or perceived gains that were accompanied by the changes described in the behavioural/social and psychological/emotional domains is unclear.

**Conclusion**

These three detailed case studies support the findings of the preceding study, validating the model. The three domains, cognitive/learning, behavioural/social, and psychological/emotional, represent changes that were identified for all three boys. Although the composition and magnitude of these changes is clearly different for each, all six dimensions and 14 of the 15 elements were represented by at least one of the research participants, and in some case by all three participants. The constituent elements which make up each domain give us a greater understanding of how learning to read may impact students in terms of their academic achievement, behaviour, and mental health. Furthermore, with the variable characteristics of the three participants and the general applicability of the model, the findings of this research suggest that the model is credible and can be applied in different ways for different readers.

Because of the academic and sometimes associated emotional challenges experienced by struggling readers, these students may develop a negative attitude towards reading, and as suggested by Morgan et al. (2012) such an attitude in turn may exacerbate their reading problems through negative emotions (frustration and anxiety) and behaviours (e.g., task avoidance). Early reading difficulties may therefore initiate
negative self-propagating effects similar to those proposed by Stanovich (1986) with the Matthew effects in which able readers tend to get “richer” and poor readers tend to make negligible progress. The findings in this study support this proposed association in that all three participants developed a more positive approach towards reading, as their reading improved; even though reading remained a struggle for all of them, they were more willing to initiate and persist in both reading and writing tasks.

For Dillon and Logan there was a change in their ability to attend or stay on task; for Mason there was no need for change as he was described as always being attentive and on-task, and consequently no change was evident to the participants. As suggested by several authors, it is the inattentive dimension of ADHD that is most clearly associated with reading difficulties (Carroll et al., 2005; Willcutt & Pennington, 2000). A positive relationship between reading and the ability to attend was demonstrated by two of the three (Dillon and Logan) cases in this study.

Since the work of Hinshaw (1992) it has been evident that problem behaviours and reading difficulties are related. More recently, studies have demonstrated that reading difficulties are related to delinquent behaviour (Carroll et al., 2005), aggressive behaviour (Willcutt & Pennington, 2000), social problems (Dahle et al., 2011), and externalizing problems in general (Dahle & Knivsberg, 2013). The participants in this study showed improved behaviour once they started making gains in reading; all three demonstrated a reduction in inappropriate behaviours, and Logan and Mason made gains in their social behaviours.

The finding of mental health gains made by all three participants in this study, when their ability to read improved, extends the findings of other studies that show a
relationship between reading and internalizing behaviours and mental health concerns. The research shows a clear association between reading difficulties and anxiety (e.g., Carroll et al., 2005), depression (Alexander-Passe, 2006), suicidal ideation (Daniel et al., 2006), and in general poor self-concept (Zeleke, 2004) and more specifically, poor academic self-efficacy (Burden, 2008). Of the three domains presented in this model, it is the psychological/emotional domain that represented the area of the greatest change for the three participants. Although all parents in this study were concerned about the emotional health of their child, only one of the participants, Mason, had a diagnosed mental illness. In describing how Mason changed as he learned to read, without mentioning depression specifically, all participants emphasized the fact that he had become happier and less burdened. Also in line with previous research, the academic self-efficacy of all three participants improved, and two out of the three also showed improvements in their general self-efficacy. In addition to the development of a more positive self-concept, the disposition of all participants also improved. These results indicate a relationship between improved ability to read, and improved mental health.

In addressing the first research question—*In what ways does an intensive reading intervention affect struggling readers?*—this study provides evidence that an improved ability to read positively affected the achievement, attitude, ability to attend, behaviour, emotional well-being, and sense of empowerment of the participants. The second research question—*

*How are changes in reading accompanied by changes in the mental health of previously struggling readers?*—was also supported by the data in this study. Gains in the mental health of the participants in this study are related to improved general
self-efficacy, self-efficacy for academic learning, and improved disposition with participants described as being “happier” and “smiling more.”

It was not the purpose of this research to suggest causality but instead to illustrate the broad effects learning to read might have on the mental health of students. Not only do students benefit academically, but emotionally as well. Furthermore, as problem behaviours are often, at least in part, manifestations of challenged or poor mental health, behaviour problems are also likely to be mitigated when reading improves. This clearly has positive repercussions for the individual student and for classroom, school, and home environments. Most telling are the reports by the two mothers that their sons’ gains in reading improved their family dynamics and home environments. By successfully teaching reading to struggling readers, who through time often struggle with respect to their self-concept and emotional well-being, we can also improve their mental health. We know how to teach reading; by successfully doing so, students may potentially make gains in two important areas—reading as well as their mental health.

Finally, according to Khanna et al. (2013), in order for students to thrive they must be successful in all three domains; cognitive/learning, behavioural/social, and psychological/emotional. This research showed that by improving the ability to read of three struggling readers, they made concomitant gains in all three domains. It follows then that effectively intervening for reading deficits when students are struggling should be the first step in any intervention program. By teaching reading we can alter the trajectory of struggling students, by improving their academic potential and by nurturing their mental health, ultimately enhancing their ability to thrive.
Limitations and Future Research

As with all qualitative research these findings are limited to these cases in these contexts. However, the robust findings of this detailed study provide profound insights into the implications of how the whole person is affected when an academic deficit such as reading, is targeted. In order to understand the generalizability of the model, more research needs to be conducted. Furthermore, a longitudinal study or studies with older participants would contribute to our understanding of the developmental aspect of struggling readers, as it is related to their mental health. Regardless, effectively teaching reading to struggling readers is a critical component necessary to enhance student thriving; as this research shows, positive gains can be made in the academic, behavioural, and psychological domains.
Chapter 5

Discussion and Conclusions

Discussion

While education today appears to be moving towards a more holistic approach, we still have a limited understanding of the contributing factors that enhance student thriving (Morrison & Peterson, 2013). No longer are schools regarded as a place solely for academic learning; schools are now recognized as being well positioned to also play a pivotal role in student physical and mental health (Morrison & Peterson, 2013). Research related to the embedded and interrelated dimensions within the three domains of thriving (cognitive/learning; behavioural/social; and psychological/emotional) is needed (Khanna et al., 2013). Recognizing and understanding the multifaceted nature of thriving has the potential to enhance students’ experience and maximize their potential in these domains, during their years at school, and beyond. The research program reported in this dissertation focused on discerning the interrelatedness of compromised mental health and reading difficulties; both of which pose challenges to students’ thriving.

In this concluding chapter, I revisit the purpose and guiding questions of the research to draw conclusions from the presenting data. I highlight insights and contributions to the current literature by synthesizing the findings of the two studies. The model designed in the first study, showing the potential changes that may occur as reading improves, is reviewed as a conceptual framework. This model is not predictive, but rather descriptive, in an effort to enhance our understanding of the elements to focus on in our attempt to understand the relationship between ability to read and mental health. In addition, by garnering and integrating these findings with what is known, I intend to
extend the current knowledge base of how challenges in learning to read and mental health challenges may coexist. Finally, I present the associated implications for theory and practice, the limitations, and the implications for further research.

Although this research has not been designed to indicate a causal direction, we know that, for many students struggling to read and mental health issues occur together, and can compromise thriving (Khanna et al., 2013). In the first study, I chose focal students for whom the two were occurring together, recognizing that this did not necessarily reflect all poor readers or all students with mental health challenges. Not all students who struggle to read have concomitant mental health challenges, and clearly not all students with mental health challenges struggle to read. However, there is strong evidence and a long history of research suggesting a frequent association between the two (e.g., Dahl et al., 2011; Reid et al., 2004).

The purpose of this two-part research program was to describe how intervening for deficits in one academic area, specifically in reading, may have implications for student mental health. The first study synthesized the perspectives of parents and classroom teachers on the changes they saw occurring as struggling readers learned to read. The resultant model was validated and refined in the subsequent study through an analysis of three ethnographic case studies.

Emergent data from the first study supported the construction of a model, through three iterations, that represented the three domains of thriving; cognitive/learning, behavioural/social, and psychological/emotional, as proposed by Khana and colleagues (2013). Within these three domains, six dimensions were identified, and include changes in: academic achievement, attitude, attention, behaviour, mental health, and
empowerment. Within these dimensions, 15 constituent elements were discernible. Of the six dimensions, the most dominant area of change as described by the participants, both in terms of frequency and intensity of expression, occurred within the dimension of mental health. Participants spoke to positive changes they considered to have evolved with respect to student general self-efficacy (confidence), self-efficacy for academic learning, self-esteem, and disposition, as students became more able readers.

The multi-perspective data presented in the second study generally validated the model as a robust representation of the potential interrelatedness of improved ability to read and improved elements of thriving. The three domains, six dimensions, and 14 of the 15 constituent elements were supported by the case study data; only self-esteem was not reported to have changed in any of the three cases in Study 2. Although each case was unique, congruence with the model was substantiated. Together the two studies provide evidence indicating that by targeting one academic area, reading, there may also be accompanying gains in mental health, both of which contribute to students’ potential to thrive.

The interrelatedness of struggling to read with problem behaviours and mental health. As this research program focuses on the relationship between learning to read and improved mental health, these outcomes will be summarized here; and because behaviour problems are now recognized as often being symptomatic of an underlying mental health challenge, the findings of both, behaviour and mental health, are reviewed together in this section.

When reading improved, participants reported noticing changes in behaviour; students were more able to attend at school and with homework and displayed fewer
problem behaviours, particularly in their home environments. In the first study, six of the nine focal participants were reported to have developed more attentive behaviours, and eight of the nine participants were reported to have either improved social behaviour, or demonstrated a reduction in problem behaviours. In the second study, two of the three participants showed improvements in their ability to attend, while the third was reported as never having difficulties attending. Also in the second study, all three participants were reported to have improved behaviour in either social competence, inappropriate behaviour, or both. A study by Morgan and colleagues (2009) showed that children with reading problems were more likely to display problem behaviours such as poor task engagement, poor self-control, and aggression. That students who learned to read, or became more able readers, in this research, also generally became more attentive and less aggressive further supports this relationship. These research findings are consistent with and provide greater descriptive data than findings reported in other studies (e.g., Scott & Shearer-Lingo, 2002; Strong et al., 2004) that have shown interventions exclusively targeting reading, can also positively impact behaviour.

The findings from the present research, which demonstrated changes in the mental health of students, are largely congruent with previous work. In the first study, all nine of the focal participants were reported to have developed improved general self-efficacy once their reading improved, and in the second study, two of the three cases developed improved general self-efficacy. Although some studies have shown that general self-concept does not seem to be affected by struggles in reading (Burden, 2008), the participants in this research were described as dramatically improving in general self-efficacy, or confidence, particularly as documented in the model-building study. The
strength of this finding suggests that our current understanding, of how improved ability to read might affect mental health, should be extended to include potential gains in general self-efficacy. Future research that heeds this suggestion would help to answer questions about how robust the current findings are.

Self-efficacy for academic learning was a ubiquitous gain made by almost all 12 participants in this research. The exception was Ratin in the first study for whom there was no classroom data as only his mother was interviewed. The relationship between struggling to read and self-efficacy for academic learning is strongly supported in the literature (Zeleke, 2004). In his synthesis of the research, Burden (2008) showed that, while students with dyslexia or other learning disabilities did not exhibit a significant difference in their general self-concept, they did in their academic self-concept. Furthermore, as shown with the work by Klassen (2007), students’ high expectations of success are positively linked to achievement; suggesting that the gains in self-efficacy made by struggling readers may propagate further gains in reading, which in turn may enhance their self-efficacy—stoking the positive feedback cycle.

Although changes in general self-esteem were not reported in the second study, it was considered an important element in the model-building study as it was frequently and emphatically referred to by the adult participants for eight of the nine student focal participants. As suggested by Burden (2008), the inconsistent use and misuse of the “self” concepts in the literature make it difficult to align the research. In part, this confusion is likely due to unclear definitions and the overlapping nature of the constructs. However, Ingesson (2007) provided a measure of self-esteem that showed that, of the 75 teenagers and young adults with dyslexia interviewed, most experienced generalized...
“distress” until Grade 6, which then evolved into low academic self-esteem for 40 percent of the participants. None of the focal students in the current studies had yet reached Grade 6.

The last element in the dimension of mental health is disposition, an encompassing term used to represent any change in mood as reported by the participants. The data from this research strongly support improved disposition with eight of the nine focal participants in the first study reported as having improved disposition, and all three cases in the second study demonstrating improved disposition accompanying gains in reading. Disposition is not represented in the literature, but the more severe descriptors of anxiety and depression are. There is now strong evidence indicating that students who struggle to read often have accompanying anxiety and depression (e.g., Carroll et al., 2005) and, in some extreme cases, suicidal ideation (Dahle et al., 2011).

Conclusions

While mental health is gathering focus in schools as a priority, and there is intention to intervene, this field within education is still in the early days, and findings regarding effectiveness are mixed. This is thought to be due largely to issues regarding preparedness of teachers, the willingness and comfort level of teachers to intervene, available resources, and the associated stigma that still exists regarding mental health (Santor et al., 2009). Although the development of the Comprehensive School Health framework began in Canada decades ago, current mental health programs in schools tend to be reactive rather than proactive, not widespread, and disparate (Mental Health Commission of Canada, School-Based Mental Health and Substance Abuse Consortium, 2013).
At the same time, there is a long history of research identifying how to intervene with struggling readers. We now know how to intervene when readers struggle; we know that we that can intervene to make non-readers or struggling readers more able, and even make them competent readers. With the pivotal research by the National Reading Panel (National Institute of Child Health and Human Development, 2000) and subsequent refinements and developments, there is now little dispute as to the essential elements of an effective reading program. There is also research that supports the need for instruction to be provided in a supportive climate, especially when reading difficulties have been sustained over an extended period of time, and failure has become the norm (Komarraju, 2013). It is also these positive environments and nurturing relationships that we would expect to be helpful and perhaps essential for students experiencing mental health concerns. The two studies in this research program considered what happens when we focus on intervening for reading difficulties in a supportive context; what the outcomes are for student thriving. Not only did I collect data on changes in reading, but also on concomitant changes as perceived by the participants and observed by myself, as they relate to the three domains of thriving—cognitive/learning, behavioural/social, and psychological/emotional.

This research showed that with an effective reading intervention offered in a supportive environment, we can make a difference in all three domains of thriving; for all students in this research program, gains were made in reading ability, a cognitive/learning element; in elements of the behavioural/social domain; and in mental health, an important dimension of the psychological/emotional domain—all of which contribute to thriving. Of the 12 students described in this research, 11 were observed or perceived of as
exhibiting change in at least one dimension in all three domains. Only Alyssa in the first study was not reported to have changed in the behavioural/social domain—not surprising as both her mother and classroom teacher indicated that prior to the intervention no aspect of her behaviour was concerning. Importantly, of the potential changes that might have accompanied improved ability to read, changes in mental health were the most frequently and emphatically cited as having improved. Despite the strength of the data supporting a positive relationship between improved ability to read and thriving, an unanticipated concern was raised in this study: in one case study (Dillon), the differences between teaching approaches offered at The Reading Room and the regular classroom, appeared in the short run to be the undoing of thriving that was seen during the intervention. This clearly raises concerns about the durability or maintenance of findings, especially for the most vulnerable students.

**The model.** The model was developed in the first study based on the retrospective accounts of parents and classroom teachers who volunteered to participate. With hindsight, these participants knew the outcomes of the intervention, and it is possible that their accounts represent the most positive cases. Although there has been limited work on the accuracy of retrospective accounts, some studies have shown that people are able to recount their emotions accurately after 90 days (Barrett, 1997) and even one year later (Röcke, Hoppmann, & Klumb, 2011). It is, however, quite possible that because the reading intervention yielded overwhelmingly positive outcomes for their children, these parents were more inclined to volunteer than had the results been less positive.
In both the construction of the model and its validation, it became evident that if a student was strong, or did not have difficulty in a particular dimension or element prior to the intervention, a change subsequent to the reading intervention was unlikely to be reported. For example, in the first study, Alyssa was the only student for whom no element of behaviour changed, as both her mother and classroom teacher described her as being on-task and appropriately behaved prior to the intervention, even while experiencing struggles to read. Similarly, Mason, in the second study, was described by all the adults as being always on-task and never displaying avoidance behaviours. Consequently, there was no mention of a change in attention for Mason. The corollary was also true; the more concerning an element initially, the greater the change following the intervention. The best example of this is Mason who, prior to the reading intervention, was diagnosed as depressed; and, although no participant specifically referred to depression, he was repeatedly and emphatically described as being “happier” and “smiling more.”

The second study, designed to validate and refine the model, produced data that supported the model in general. However, the volunteers in this study did not know the outcomes of the intervention when they agreed to participate, perhaps contributing to less positive cases than in Study 1. Some elements of the model only applied in one of the three cases (attitude towards school, avoidance behaviours, independence, and self-advocacy); some in two cases (changes in writing, willingness to participate, on-task behaviour, social competence, and general self-efficacy); and one (self-esteem) in no case in the validation study—even though in the model building study, self-esteem was reported to be key in eight of the nine focal participants. Perhaps in addition to families
knowing the outcomes in the initial study, perspectives since the intervention may have changed over time. Nevertheless, the wide variability and congruence in the three cases in the validation study suggest the general premise of the research may be robust and the conceptual model representative.

**Implications for theory.** Although this research was not designed to deduce causality, the results are clearly indicative of a relationship between struggling to read and mental health challenges, and conversely, between improved ability to read, and positive gains in mental health. The model developed in the first study can be used as a conceptual framework to better understand this relationship. The cognitive/learning, behavioural/social, and psychological/emotional domains of thriving are all represented in the model, suggesting that any of the constituent elements in any combination might contribute to student thriving. Improved ability to read through an effective intervention improves the cognitive/learning aspect of thriving and may contribute to the behavioural/social and psychological/emotional domains as well. The data in both studies have indicated that the mental health dimension within the psychological/emotional domain may be the most important outcome associated with an improved ability to read, and, consequently a considerable contributor to thriving. Furthermore, and importantly, the perceived changes in mental health were reported as extending beyond the school setting.

**Implications for practice.** Teachers have expressed a concern both about student mental health, and their perceived inability to identify mental health challenges and to intervene (Froese-Germain & Riel, 2012). Research such as presented in these two studies supports the interrelatedness of reading difficulties and mental health challenges.
And although all students with reading difficulties will not necessarily have concomitant mental health challenges, teaching reading will, at minimum, have a direct benefit to the cognitive/learning domain of thriving and may also positively affect the behavioural/social and psychological/emotional domains when students experience concomitant difficulties in these domains; and teachers generally know how to teach reading. Remediating reading difficulties has the potential to simultaneously improve the mental health of students and might particularly benefit those who are most “damaged” by a long history of failure, as suggested by Allyson. When reading difficulties and mental health challenges do occur together, intensive and sensitive instruction in reading is a logical place to begin. Intervening for reading is a necessary step when these struggles converge but may not be sufficient to enhance the mental health of all students.

In the current era of inclusion, it is possible to meet the needs of struggling readers who may or may not have concomitant mental health challenges in a regular school setting. An intensive reading intervention, such as that offered at The Reading Room, could be offered in a regular classroom or school setting with appropriately trained professionals. Ideally the interventionists would be trained in both effective reading instruction and in the sensitivities needed to work with students who might also have mental health challenges. In intensive interventions offered outside regular classrooms, such as the one in this research, the ultimate goal should be to provide the requisite reading skills and to develop the student’s self-efficacy in a way that they could then successfully integrate back into their home school full time, after successful completion of the program. Considerable educational research has tackled the challenge of scaling up small scale interventions to be effective in school-wide and system-wide
contexts (e.g., Klingner, Boardman, & McMaster, 2013). A possible way to approach this would be to conduct similar interventions with pairs and small groups on the way to developing classroom feasible interventions (Hutchinson, 1993; Hutchinson, 1997).

Tiered intervention frameworks have been in existence for over 20 years, are widely available in the literature, and have been adapted here. In revisiting the Comprehensive School Health (CSH) framework as proposed by Rowling and Weist (2004) and represented by Figure 1, in general, struggling readers would likely fall within the third tier; the tier within which additional targeted support can be provided still within the school system. For more extreme and complex cases, such as the case of Dillon, these students would more appropriately fit in tier four, and require additional and more intensive supports from external health providers and agencies, possibly for both reading and mental health needs. In a more traditional three tier intervention model (or a Response to Intervention [RTI] model), a tier two reading intervention would correspond with the third tier in the CSH framework, and a tier three reading intervention would likely correspond with the fourth tier in the CSH framework. This correspondence is depicted in Figure 6 and shows how the two models, with a modified version of the CSH framework, can be integrated to represent the interrelatedness of gains in reading ability, and improved mental health. In this model I propose a modified version of the CSH framework to better align with current three tiered approaches to intervention. In this modified version Tiers one and two would be amalgamated to represent school-wide and class-wide mental health initiatives, while the second tier represents the first targeted intervention for students considered to be at risk for mental health challenges. Tier 3 is the level of intervention necessary for those students with intense and complex needs.
Figure 8. A parallel tiered model representing the interrelatedness of the Comprehensive School Health (CSH) framework for mental health interventions and a traditional three-tiered (or Response to Intervention [RTI]) intervention framework for academic achievement interventions.

Tier 3: Students needing additional, intensive mental health support from external providers.

Tier 2: Students needing additional help in the school setting.

Tier 1b: School/class-wide mental health education. Part of the general curriculum.

Tier 1a: School/class-wide promotion of well-being.

Tier 3: Intensive, individualized interventions.

Tier 2: Targeted small group interventions for at-risk students.

Tier 1: School/Class-wide instruction for all students. Preventative, proactive and part of the general curriculum.

Modified Comprehensive School Health (CSH) Framework

Three Tier Model (Response to Intervention [RTI])

Tier 3:

3-12%

1-5%

80-90%

Tier 2:

20-30%

5-10%

Tier 1a:

Tier 1b:

1-5%

3-12%

2-12%

3-12%

Tier 1:

20-30%

5-10%

Tier 1:

3-12%

5-10%

Tier 1:

3-12%

5-10%

Limitations. As with all qualitative research, the transferability of these findings is greatest for similar cases that arise in similar contexts. Given the extensive descriptive accounts in the present study, the onus is on the reader to make judgments about the transferability of these findings. The application of the results would benefit from multiple cases that can deepen and broaden our understanding of the relationship between learning to read, and mental health. With larger samples, or a multitude of case studies, we could discern the broader applicability of these findings and perhaps determine the reliability of the model as well as the population it best represents. It is possible that for
students with severe reading deficits, coupled with considerable mental health challenges, such as was the case with Dillon, the application of this model might be limited. Furthermore, the changes described by the model may not be resilient over time, especially in the most vulnerable and complex cases.

The reading intervention provided by The Reading Room may in itself be a limitation of this study. The Reading Room is a private agency, limiting its availability to those who could afford to pay, or were able to procure alternative funding. Not all families are able to afford the cost, or are committed enough to seek such an involved undertaking. Furthermore, not all communities have intense individualized intervention opportunities such as the one in this research. As well, the instructors at The Reading Room were committed to creating a positive social-emotional climate.

A third limitation is that both of the studies in this research program were based on the same intervention which raises the question of “shared variance,” or the degree to which the same intervention might have influenced the outcomes of both studies. It is possible that the findings are unique to this intervention alone. Perhaps another intervention would not be intensive enough to produce the same results, or perhaps the setting would not be sufficiently nurturing.

Finally, there remains the methodological question, as previously described, about the use of retrospective accounts in the first study, in contrast to the momentary accounts in the second study. With the potential for perspectives to change over time, and the perhaps overly positive sampling in the first study, one must keep in mind the need for subsequent studies, focused on other reading interventions, to rigorously test the validity of the model developed in Study 1.
**Implications for further research.** Broadening the foundation of this research initiative should be the first step of any subsequent research agenda. A similar study, but with different intervention programs, would help establish how ubiquitous the behavioural/social and psychological/emotional outcomes are when gains in reading are evidenced. Other reading interventions may help delineate the intensity necessary to bring about the accompanying changes in elements of thriving, and perhaps will help identify the students who would most benefit from these intensive programs. Furthermore, it will be important to investigate the intensity and duration of a reading intervention necessary to positively affect mental health.

As well as widening the scope of reading interventions, increasing the number of participants will enhance the generalizability of the findings. With more participants it may be possible to identify those students for whom a reading intervention may be sufficient to enhance the reading ability and mental health of students (a tier-two intervention in the modified CSH framework), and those students who would need a more comprehensive and intensive intervention (a tier three intervention in the modified framework) to result in positive outcomes in both reading and mental health.

A third area of potential research would be to elicit the perspectives of older struggling readers. Older students may be able to articulate the barriers and facilitators they have experienced in learning to read. In other words, *how* should teachers teach them, and in what contexts—as well as sound evidence-based instruction, what do older students suggest are the key elements to optimize their learning?

Perhaps the most important outcome of this research is the realization that teachers are in a position to affect positively the academic learning and the mental health...
of their students by doing something they already know how to do. By teaching evidence-based reading in a supportive, nurturing environment, teachers have the potential to meet both the learning and mental health needs of students. The work by Dods (2013) has shown that, especially for students with trauma and associated mental health challenges, student-teacher relationships can be pivotal. The four key factors in creating these important relationships were that relationships be: (a) teacher driven, (b) authentic caring, (c) attuned to students’ emotional states, and (d) individualized. In addition, the work of Capern and Hammond (2014) showed that students with emotional and behavioural disorders valued teacher behaviours that exhibited warmth, understanding, and patience, all of which were considered essential precursors to teachers being able to support them in their learning. Fortunately and importantly, all these aspects fall within the realm of good teaching. As described in the work of Dods (2013), students with mental health concerns were not looking to teachers to provide counseling or therapy, they needed teachers to be supportive and caring. When students struggle to read and are simultaneously affected by mental health challenges, in addition to intensive academic interventions, instruction should be given in a way that takes into account the mental health fragility of these students. The findings from this dissertation research highlight the key role teachers can have on student academic learning and mental health. Teachers need to be teachers, not therapists, to intervene effectively; a reassuring fact in light of teachers’ concerns about their perceived inability to help students with mental health challenges.

Despite the acknowledged limitations, this research indicates that the premise that learning to read can be positively related to mental health, is robust. An effective reading
intervention offered in a supportive environment, by a knowledgeable and committed teacher, will, in most cases, improve the student’s ability to read. Additional indirect, but important, gains may also be made in the mental health of the student, especially if it is compromised. These two factors are crucial components of thriving as elements of the cognitive/learning and psychological/emotional domains. The third domain of thriving, the behavioural/social domain, has also been shown to improve. The three domains are clearly integrated and interrelated; a positive change in one has the potential to positively change another. Because we know how to teach reading, better than we know how to change behaviour or improve mental health, this, of the three should be the initial point of intervention when all are implicated. Thus, by teaching reading in a supportive context to readers who have struggled, their mental health may improve, as may their behaviour—all of which enhance the positive trajectory of thriving for that student.
References


doi:10.1177/00222194060390060301


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Appendix A
Study 1–Parent/Guardian Interview Questions

STUDY 1: Parent/Guardian Interview Guide

Opening questions:

1. *Briefly tell us the name of your child and something fun they like to do.
2. *Now, please tell us your child’s age and grade.

Pre-intervention questions:

Related to reading

3. *Describe a situation or event that first alerted you to your child’s reading difficulties.
   Probe: Describe a situation where you saw your child struggle with reading
4. What prompted you to bring your child to The Reading Room?
5. *Describe your child’s reading ability before beginning the reading intervention.
   Probe: Describe what happened when your child tried to read.
6. What and how often did your child read before starting at The Reading Room?
7. *How do you think your child felt about his/her reading difficulty then?
   Probe: In what way did your child compare his/her reading ability to that of classmates?

Related to behaviour

8. *How did your child feel about going to school before the intervention?
   Probe: How did your child talk about school?
9. *Describe a typical school day for your child before the intervention.
   Probe: How does the day start/end?
10. How did your child’s teacher talk about his or her behaviour at school before the intervention?
11. Describe your child’s attendance at school before the intervention.
12. *Describe any behaviour difficulties your child had at school before the intervention.
   Probe: If your child acted inappropriately at school, please describe an incident or situation

Intervention and post-intervention questions:

Related to reading
STUDY 1: Parent/Guardian Interview Guide

13. *Describe when you first noticed a change in your child’s ability to read? Probe: Describe how your child’s ability to read has changed since the beginning of the program.

14. Describe any comments your child’s teacher has made regarding his or her reading ability since starting the reading program.

15. *What and how often does your child read now?

16. *Describe any changes you may have noticed in your child’s attitude towards reading since beginning the program.

Related to behaviour

17. *How does your child feel about going to school now?

18. Describe a typical school day for your child now, or following the intervention. Probe: How does the day start/end?

19. How has your child’s teacher talked about his or her behaviour at school since beginning the intervention?

20. Describe any changes in your child’s attendance at school since beginning the intervention.

21. *Describe any changes you have noticed in your child’s general attitude or mood since he/she began the program. Probe: What do you think might have contributed to these changes?

22. *Describe any changes you have noticed in your child’s general behaviour since the beginning of the reading program. Probe: What do you think might have contributed to these changes?

23. *Tell me about any changes you may have noticed in your child’s relationships with friends or classmates.

24. *What would you say is the greatest benefit of your child’s improved reading ability?

25. *Is there anything you think we should have discussed, but did not? Anything you want to add about something said earlier?
Appendix B

Study 1–Classroom Teacher Interview Questions

STUDY 1: Classroom Teacher Interview Guide

Opening questions:

1. Briefly tell us what you teach and how long you have been teaching.

2. Describe the student you have taught who has attended The Reading Room including how long you have known them, and something special or unique about them.

Pre-intervention questions:

Related to reading

3. Describe a situation or event that first alerted you to this student’s reading difficulties.

4. Did you recommend additional support or a reading intervention for the student?

Probe: What did you do or suggest?

5. Describe the student’s reading ability before beginning the reading intervention.

Probe: Describe what happened when the student read.

Probe: Describe a situation where you have seen this student struggle with reading.

6. How often did the student volunteer to read aloud in the class?

Probe: Describe how you think this student felt about his/her reading difficulty?

7. How and in what ways did the student talk about reading?

Probe: In what way did your child compare his/her reading ability to that of classmates?

Related to behaviour

8. Describe a typical school day for this student before the intervention.

Probe: How does the day start/end?

9. Tell me about the learning behaviour of this student before the intervention.

Probe: Describe in terms of achievement, attention and on-task behaviour?

10. Describe the social behaviour of this student before the intervention.
STUDY 1: Classroom Teacher Interview Guide

Probe: How did this student interact with classmates before the intervention?

11. Describe this student’s attendance since the intervention.

12. Describe any behaviour difficulties this student had at school before the intervention.

Probe: If this student acted inappropriately at school, please describe the incident

Probe: Related to reading

13. Describe when you first noticed a change in this student’s ability to read?

Probe: Describe how the student’s ability to read has changed over time.

14. What and how often does this student read now?

15. Describe any changes you may have noted in this student’s attitude towards reading since beginning the program.

Probe: What do you think might have contributed to these changes?

Probe: Related to behaviour

16. Describe a typical school day for this student now, or following the intervention.

Probe: How does the day start/end?

17. Describe any changes you have noticed in this student’s learning behaviour since the intervention?

Probe: Attention and on-task behaviour.

18. Describe any changes you have noticed in this student’s general attitude or mood since he/she began the program?

Probe: What do you think might have contributed to these changes?

19. Describe any changes you have noticed in this student’s general behaviour since the beginning of the reading program.

Probe: What do you think might have contributed to these changes?

20. Describe any changes in this student’s attendance since beginning the intervention.

21. How do you feel about the student taking time out of class for the Reading Clinic?

Probe: In what ways is it, or isn’t it worth it? (added—January 12, 2012)
STUDY 1: Classroom Teacher Interview Guide

22. What would you say is the greatest benefit of this student’s improved reading ability?

23. Is there anything you think we should have discussed, but did not?
Appendix C

Study 1–Reading Instructor Interview Questions

STUDY 1: Reading Instructor Interview Guide

Opening question:
1. Briefly describe your teaching experience and your personal interest in teaching reading.

Early intervention questions:

Related to reading
2. Having had many students over the years, please describe a typical first class.
3. Briefly describe your reading program.
4. Describe a “typical” learner in the program.
Probe: What is the reading level of most students when they begin the intervention?

Related to behaviour
5. Describe how willing and cooperative the students are generally at the beginning of the program.

Late or post-intervention questions:

Related to reading
6. Describe a typical last day of class.
7. Describe how a “typical” learner progresses through the program.
Probe: What is the reading level of most students when they complete the intervention?

Related to behaviour
8. Describe how willing and cooperative the students are generally at the end of the program.
9. In general, describe any changes you have noticed in the attitude towards reading of most of the children by the end of the program.
Probe: What do you think might have contributed to these changes?
10. In general, describe any changes you have noticed in the general attitude or mood of most of the children by the end of the program.
STUDY 1: Reading Instructor Interview Guide

Probe: What do you think might have contributed to these changes?

11. In general, describe any changes you have noticed in the behaviour of most of the children by the end of the program.

Probe: What do you think might have contributed to these changes?

12. If parents or classroom teachers have commented on any of these changes, please describe.

13. Think of a student who made the greatest progress during the reading program. Describe this student in terms of their reading ability, their attitude, and classroom behaviour.

14. If you have taught reading to a student with challenging behaviour, please describe the experience.

15. What would you describe as the greatest benefit of being able to read?

16. Is there anything you think we should have discussed, but did not?
Appendix D
Study 2–Student Interview Questions

STUDENT INTERVIEW QUESTIONS, AFTER INTERVENTION

Opening question:

1. What do you like most about being able to read?

Pre-intervention questions:

Related to reading

2. Before coming here, how was your reading compared to your friends?
   Probe: How did you feel if your friends read better than you did?
   Probe: What did your friends do if you were having difficulty reading?

3. How often did you volunteer to read in class at school?

3. How often and what did you used to read?

4. Can you think of a time that you couldn’t do something because it was too hard to read?
   Describe it.

Related to behaviour

5. Describe how you felt about your reading before having the reading classes?

6. Tell me what it was like going to school before you began the reading program.
   Probe: In what ways did you like it, and not like it?

7. What did you do when you couldn’t read something?
   Probe: Did you keep trying, did you get help, or did you give up?

8. Describe what happened if your teacher asked you to do some work and you couldn’t because it was too hard to read it.

9. Describe to me what your friendships were like.

10. If you ever got into trouble at school (before the reading program) can you please describe what happened?

Post-intervention questions:

Related to reading

11. In what ways do you think your reading has improved since you began the reading program?

12. What helped you most with your reading?
   Probe: What did you like best about the reading program?

13. Why do you think it important to you to be able to read?

14. What can you do now that you couldn’t do before?
STUDENT INTERVIEW QUESTIONS, AFTER INTERVENTION

15. How do you think you read now compared to your friends?

16. Do you like reading more now? If you do, explain why.
   Probe: How often and what do you read now?

   Related to behaviour

17. Describe what school is like for you now?
   Probe: In what ways do you like it, or not like it?
   Probe: In what ways is school easier for you now?

18. Describe one thing that you can now do at school that you couldn’t do before.

19. Describe something that doesn’t happen any more at school.

20. Describe to me what your friendships are like now.

21. If you got into trouble at school recently can you please describe what happened?

22. Is there anything you want to add?
Appendix E
Study 2–Parent/Guardian Interview Questions

PARENT/GUARDIAN INTERVIEW QUESTIONS, POST INTERVENTION

Opening question:
1. Describe a situation or event that first alerted you to your child’s reading difficulties.

Pre-intervention questions:

Related to reading
1. What prompted you to bring your child to the reading centre?
2. Describe your child’s reading ability before beginning the reading intervention.
   Probe: Describe what happened when your child tried to read.
   Probe: Describe a situation where you saw your child struggle with reading
3. What and how often did your child read before starting at the reading centre?
4. How do you think your child felt about his/her reading difficulty then?
   Probe: In what way did your child compare his/her reading ability to that of classmates?

Related to behaviour
5. How did your child feel about going to school before the intervention?
   Probe: How did your child talk about school?
6. Describe a typical school day for your child before the intervention.
   Probe: How does the day start/end?
7. How did your child’s teacher talk about his or her behaviour at school before the intervention?
8. Describe your child’s attendance at school before the intervention.
9. Describe any behaviour difficulties your child had at school before the intervention.
   Probe: If your child acted inappropriately at school, please describe an incident or situation

Intervention and post-intervention questions:

Related to reading
10. Describe when you first noticed a change in your child’s ability to read?
    Probe: Describe how your child’s ability to read has changed since the beginning of the program.
11. Describe any comments your child’s teacher has made regarding his or her reading ability since starting the reading program.
12. What and how often does your child read now?
13. Describe any changes you may have noticed in your child’s attitude towards reading since beginning the program.

Related to behaviour
PARENT/GUARDIAN INTERVIEW QUESTIONS, POST INTERVENTION

14. How does your child feel about going to school now?
15. Describe a typical school day for your child now, or following the intervention.
   Probe: How does the day start/end?
16. How has your child’s teacher talked about his or her behaviour at school since beginning the intervention?
17. Describe any changes in your child’s attendance at school since beginning the intervention.
18. Describe any changes you have noticed in your child’s *general* attitude or mood since he/she began the program.
   Probe: What do you think might have contributed to these changes?
19. Describe any changes you have noticed in your child’s *general* behaviour since the beginning of the reading program.
   Probe: What do you think might have contributed to these changes?
20. Tell me about any changes you may have noticed in your child’s relationships with friends or classmates.
21. What would you say is the greatest benefit of your child’s improved reading ability?
22. Is there anything you think we should have discussed, but did not?
Appendix F

Study 2–Teacher Interview Questions

TEACHER INTERVIEW QUESTIONS, POST INTERVENTION

Opening questions:

1. Briefly tell us what you teach and how long you have been teaching.
2. Describe the student you have taught who has attended the reading centre including how long you have known them, and something special or unique about them.

Pre-intervention questions:

*Related to reading*

3. Describe a situation or event that first alerted you to this student’s reading difficulties.
4. Did you recommend additional support or a reading intervention for the student?
   Probe: What did you do or suggest?
5. Describe the student’s reading ability before beginning the reading intervention.
   Probe: Describe what happened when the student read.
   Probe: Describe a situation where you have seen this student struggle with reading
6. How often did the student volunteer to read aloud in the class?
   Probe: How do you think this student felt about his/her reading difficulty?
7. How and in what ways did the student talk about reading?
   Probe: In what way did your child compare his/her reading ability to that of classmates?

*Related to behaviour*

8. Describe a typical school day for this student before the intervention.
   Probe: How does the day start/end?
9. Tell me about the learning behaviour of this student before the intervention.
   Probe: Describe in terms of achievement, attention and on-task behaviour?
10. Describe the social behaviour of this student before the intervention.
    Probe: How did this student interact with classmates before the intervention?
11. Describe this student’s attendance since the intervention.
12. Describe any behaviour difficulties this student had at school before the intervention.
    Probe: If this student acted inappropriately at school, please describe the incident or situation

Intervention and post-intervention questions:

*Related to reading*

13. Describe when you first noticed a change in this student’s ability to read?
    Probe: Describe how the student’s ability to read has changed over time.
14. What and how often does this student read now?
14. Describe any changes you may have noted in this student’s attitude towards reading since beginning the program.
    Probe: What do you think might have contributed to these changes?
15. Describe reading instructional strategies that you have found to work particularly well with this student.

**Related to behaviour**

16. Describe a typical school day for this student now, or following the intervention.
   Probe: How does the day start/end?
17. Describe any changes you have noticed in this student’s learning behaviour since the intervention?
   Probe: Attention and on-task behaviour.
18. Describe any changes you have noticed in this student’s general attitude or mood since he/she began the program?
   Probe: What do you think might have contributed to these changes?
19. Describe any changes you have noticed in this student’s general behaviour since the beginning of the reading program.
   Probe: What do you think might have contributed to these changes?
20. Describe any changes in this student’s attendance since beginning the intervention.
21. What would you say is the greatest benefit of this student’s improved reading ability?
22. Is there anything you think we should have discussed, but did not?
Appendix G
Study 2–Reading Therapist Interview Questions

READING THERAPISTS INTERVIEW QUESTIONS, POST INTERVENTION

Opening questions:

1. Briefly describe your teaching experience.
2. Briefly describe this student.

Early intervention questions:

Related to reading

1. How would you describe this student’s ability to read at the beginning of the course?
2. How would you characterize this student’s progression through the course?
3. If this student has commented on his/her ability to read, what have they said?
4. Describe a situation where you have seen this student struggle with reading

Related to behaviour

5. Describe how willing and cooperative this student was at the beginning of the program.
6. How would you describe this student’s attitude towards reading at the beginning of the program?
7. In what ways was this student confident, or not confident in their ability to read?
8. Characterize the learning and social behaviour or this student.
   Probe: Describe this student’s attentive and on-task behaviour.
   Probe: Describe any acting out, disruptive, or aggressive behaviour displayed by this student.

Late or post-intervention questions:

Related to reading

9. Describe when you first noticed a significant change in this student’s ability to read?
   Probe: Tell me how the student’s ability to read has changed over time.
10. How would you describes the strengths and challenges in reading this student has had?
11. Describe reading instructional strategies that you have found to work particularly well with this student.

Related to behaviour

12. Describe any changes you may have noted in this student’s attitude towards reading since beginning the program.
   Probe: What do you think might have contributed to these changes?
READING THERAPIST INTERVIEW QUESTIONS, POST INTERVENTION

13. Describe any changes you have noticed in this student’s general attitude or mood since he/she began the program?
   Probe: What do you think might have contributed to these changes?

14. Describe any changes you have noticed in this student’s on-task behaviour since the beginning of the reading program.
   Probe: What do you think might have contributed to these changes?

15. Describe any changes you have noticed in this student’s acting out/disruptive behaviour since the beginning of the reading program.
   Probe: What do you think might have contributed to these changes?

16. Describe any changes you have noticed in this student’s aggressive behaviour since the beginning of the reading program.
   Probe: What do you think might have contributed to these changes?

17. What would you say is the greatest benefit of this student’s improved reading ability?

18. Is there anything you think we should have discussed, but did not?
Appendix H: Ethics Approval

February 1, 2011

Ms. Jennifer de Luit
Ph.D. Candidate
Faculty of Education
Duncan McArthur Hall
Queen’s University
Kingston, ON K7L 3N6

GREB ref. #: GEDUC-466-09
Title: “What Changes When Reading Improves? Investigating the Relationship Between Reading and Problem Behaviour”

Dear Ms. de Luit:

The General Research Ethics Board (GREB) has reviewed and approved your request for renewal of ethics clearance for the above-named study. This renewal is valid for one year from December 14, 2010. Prior to the next renewal date you will be sent a reminder memo and form to reapply.

You are reminded of your obligation to advise the GREB, with a copy to your unit REB if applicable, of any adverse event(s) that occur during this one year period (details available at webpage http://www.queensu.ca/orr/researchethics/GeneralREB/forms.html - Adverse Event Report Form). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example you must report changes in study procedures or implementations of new aspects into the study procedures on the Ethics Change Form that can be found at http://www.queensu.ca/orr/researchethics/GeneralREB/forms.html - Research Ethics Change Form. These changes must be sent to the Ethics Coordinator, Gail Irving, at the Office of Research Services or Irving@queensu.ca prior to implementation. Ms. Irving will forward your request for protocol changes to the appropriate GREB reviewers and / or the GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely,

Joan Stevenson, Ph.D.
Professor and Chair
General Research Ethics Board

c.c.: Dr. Nancy Hutchinson, Supervisor
Dr. Lesly Wade-Woolley, Chair, Unit REB
E-REB: c/o Graduate Studies & Bureau of Research, Attn.: Celina Caswell

JS/gi