A STUDY OF CLASSROOM TEACHERS’ EXPERIENCES IN A COLLABORATIVE LEARNING COMMUNITY: LEARNING TO IMPROVE SUPPORT FOR STUDENTS WITH CHARACTERISTICS OF ADHD AND THEIR LITERACY LEARNING

by

Shelley Murphy

A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Graduate Department of Curriculum, Teaching and Learning
Ontario Institute for Studies in Education
University of Toronto

© Copyright by Shelley Murphy 2012
A STUDY OF CLASSROOM TEACHERS' EXPERIENCES IN A COLLABORATIVE LEARNING COMMUNITY: LEARNING TO IMPROVE SUPPORT FOR STUDENTS WITH CHARACTERISTICS OF ADHD AND THEIR LITERACY LEARNING
Doctor of Philosophy 2012
Shelley Murphy
Graduate Department of Curriculum, Teaching and Learning
University of Toronto

Abstract

This research investigated elementary classroom teachers' experiences in a collaborative learning community (CLC) on the topic of supporting the literacy learning of students with characteristics of ADHD. Five general education classroom teachers participated in biweekly CLC meetings over a 5-month period. Qualitative methods of data gathering were employed in the form of participant observations in the classroom and during 9 CLC meetings. Participants were also interviewed three times. The first interview was conducted before the CLC meetings began, the second interview was conducted immediately after formal CLC meetings had ceased, and the final interview was conducted 6 months after meetings had ended. Three main findings emerged from the research. First, participants' literacy teaching of their students with characteristics of ADHD was positively influenced as a result of their participation in the CLC. This positive influence came through an interaction of factors related to their knowledge, skills, attitudes, and beliefs. It also resulted from a reconceptualization of both their understanding of their students with characteristics of ADHD and of themselves as literacy teachers. Second, certain aspects of the CLC contributed to this positive outcome. These aspects were the opportunity to work with colleagues, participant control over the format and content of CLC, and repeated opportunities to reflect on and refine teaching practice. Third, personal and contextual factors shaped the participants' experiences within the CLC. Participants who had challenges during their own
schooling were more driven and committed to understand and respond to their students’ diverse learning needs. Participants with the most number of years of teaching experience had a more fully realized skill set, higher levels of self-efficacy, and lower levels of stress related to teaching and meeting the needs of their students with characteristics of ADHD. Implications for school literacy teaching, preservice education, in-service education, and future avenues for research are discussed in light of the findings.
Dedication

This dissertation is dedicated to three people.

To my Dad, James Murphy,
who always loved and supported me unconditionally.
My moment of greatest pride will forever be getting to tell you that
I had completed my dissertation.
Thank you for being my biggest cheerleader.
Your joyous and positive spirit lives in me.

To my Mom, Dorothy Murphy,
who unselfishly took care of me
when I was physically unable to take care of myself.
You made it possible for me to embark on this journey,
and I am forever grateful to you.

To my nephew, Noah,
who was the inspiration for this dissertation.
You are now a successful middle school student,
and I'm so proud of the kind, compassionate, intelligent,
and beautiful soul that you are.
Thank you for being one of my greatest teachers.
Acknowledgments

There are many people that I give thanks to for their support during the process of completing this dissertation. First, I would like to thank my supervisor, Professor Linda Cameron, who accepted me as a doctoral student and forever changed the course of my life as a result. Her unquestioning support, wholehearted care, and unequivocal belief in me and my work gave this dissertation life. I also have the deepest gratitude for my dissertation committee members. Professor Lee Bartel offered a pivotal guiding voice around methodology and the early direction of my research and Professor Clive Beck generously provided ongoing mentorship, feedback, and support; their contributions to my work were invaluable. Professor Esther Fine from York University served as the external examiner for my dissertation. I would like to thank her for her in-depth and meaningful feedback. I would also like to thank Professor David Booth who truly made this a thoughtful, fun, and rewarding journey. To Professor Clare Kosnik, I am indebted to you for your feedback and unwavering mentorship and guidance. To Dr. Helen Hyun, from San Francisco State University, thank you for planting the doctoral study seed.

My family and friends provided me with invaluable encouragement and support as I journeyed towards dissertation completion. I am ever grateful for the friendships I forged through the doctoral program at OISE and for how much they enriched my studies and my life. Thank you to Monica McGlynn-Stewart and Farveh Ghafouri. Without their ongoing intellectual, emotional, and critical support, my work would certainly not have reached its full potential. Thank you to Kimberly Bezaire, Tiffany Harris, and the entire BTE group. I am also grateful for my cherished friendships outside of OISE. In particular, thank you to Bill Young
who has forever provided a bounty of inspiration and support. To Susan Hammond, I thank you for seeing me as PhD-capable years before I saw it for myself.

This doctoral journey was very much a family affair. Thank you to my parents and to my sister, Cheryl, and my brother, Shawn, for enthusiastically shepherding me through the ebbs and flows of life as I completed this journey. Thank you to Kathy and Dave, and to my beloved nieces and nephews, Danielle, Megan, Noah, Mason, and Ben. I am especially grateful for your care and cheerleading.

Finally, to my research participants who so generously shared their time and insights, I cannot thank you enough for your confidence in my ability to reflect your stories and experiences in a meaningful way. You are certainly the voices of this dissertation.
Table of Contents

Abstract ........................................................................................................................................... ii
Dedication ......................................................................................................................................... iv
Acknowledgments ........................................................................................................................... v

Chapter 1: Introduction .................................................................................................................... 1
  Introduction to the Study .................................................................................................................. 1
  Purpose of the Research .................................................................................................................. 2
  Background ..................................................................................................................................... 3
  Personal Background ....................................................................................................................... 5
    Elementary Teaching Experience ................................................................................................. 6
    Family .......................................................................................................................................... 7
    Professional Development ............................................................................................................ 10

Research Questions ......................................................................................................................... 12
Definition of Terms ........................................................................................................................... 13
Format of Thesis ............................................................................................................................... 14
Chapter Summary ............................................................................................................................ 15

Chapter 2 Review of Literature ....................................................................................................... 16
  Introduction ..................................................................................................................................... 16
  The Importance of Literacy in Canadian Society ......................................................................... 17
  Barriers to Literacy Learning .......................................................................................................... 18
    Ability Based Barriers to Literacy ............................................................................................... 18
  Understanding Attention Deficit Hyperactivity Disorder (ADHD) .............................................. 20
    Subtypes of ADHD ...................................................................................................................... 21
    Diagnosis .................................................................................................................................... 22
    Executive Functioning ............................................................................................................... 22
    Working Memory ....................................................................................................................... 23
    Processing Speed ....................................................................................................................... 24
  ADHD in the Context of Schooling ............................................................................................... 24
  ADHD and Literacy Learning ........................................................................................................ 27
  Weaknesses in Text Recall and Comprehension ......................................................................... 28
Weaknesses in Written Expression ................................................................. 29
Weaknesses in Language Functioning ........................................................... 30
Supporting Students With Special Education Needs in Publicly Funded Schools in Ontario ................................................................. 32
Inclusion ......................................................................................................... 36
ADHD Within the System of Special Education and Inclusion .......................... 36
Teacher Education: Preservice and In-Service ............................................... 38
  Preservice .................................................................................................... 38
  In-Service Professional Learning ............................................................... 40
    Induction .................................................................................................. 41
    Additional qualification courses ............................................................... 42
    Informal opportunities ............................................................................ 43
Teacher Learning and Effective Teacher Professional Development .................. 44
  Features of High-Quality Professional Development .................................... 45
    Inquiry-based, constructivist approaches ................................................. 46
    Extended and on-going ........................................................................... 47
    Embedded in teachers’ work with opportunities for collaboration ............... 48
Teacher Knowledge and Professional Development on the Topic of ADHD ....... 51
  Teacher Knowledge About ADHD and its Relationship to Teacher Self-Efficacy .................................................................................. 51
  Teacher Knowledge and Lack of Professional Development on the Topic of ADHD ........................................................................... 53
  Prior Research on Professional Development for Teachers of Students With ADHD .................................................................................. 55
Chapter Summary ......................................................................................... 57
Chapter 3: Methodology and Research Design ................................................. 59
  Introduction ............................................................................................... 59
  Qualitative Research Methodology ............................................................ 60
  Qualitative Research Methods in the Present Study: Case Study Approach ...... 61
    Research Participant Selection .................................................................. 62
    Research Site .......................................................................................... 64
  Data Collection Strategies ......................................................................... 65
  Interviews ................................................................................................. 65
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview Design</td>
<td>66</td>
</tr>
<tr>
<td>Observations</td>
<td>69</td>
</tr>
<tr>
<td>Researcher Reflective Journal</td>
<td>70</td>
</tr>
<tr>
<td>Triangulation</td>
<td>71</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>71</td>
</tr>
<tr>
<td>Grounded Theory</td>
<td>71</td>
</tr>
<tr>
<td>Safeguarding Validity</td>
<td>74</td>
</tr>
<tr>
<td>Professional Development Model</td>
<td>75</td>
</tr>
<tr>
<td>Decisions About Format and Content</td>
<td>76</td>
</tr>
<tr>
<td>Structure</td>
<td>76</td>
</tr>
<tr>
<td>Content</td>
<td>76</td>
</tr>
<tr>
<td>Interests That Emerged Within the Collaborative Learning Community (CLC)</td>
<td>77</td>
</tr>
<tr>
<td>Content Sources</td>
<td>78</td>
</tr>
<tr>
<td>Overview of Collaborative Learning Community Meetings</td>
<td>78</td>
</tr>
<tr>
<td>My Role in the CLC</td>
<td>81</td>
</tr>
<tr>
<td>Limitations</td>
<td>81</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>83</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>83</td>
</tr>
<tr>
<td>Chapter 4: Findings: Individual Case Studies</td>
<td>85</td>
</tr>
<tr>
<td>Introduction</td>
<td>85</td>
</tr>
<tr>
<td>Case One: Wendy</td>
<td>85</td>
</tr>
<tr>
<td>Professional Learning</td>
<td>86</td>
</tr>
<tr>
<td>Preservice</td>
<td>86</td>
</tr>
<tr>
<td>In-service</td>
<td>86</td>
</tr>
<tr>
<td>Personal Life Context in Relation to Diverse Learning Needs</td>
<td>87</td>
</tr>
<tr>
<td>Prior Professional Experience</td>
<td>88</td>
</tr>
<tr>
<td>Teaching Context</td>
<td>89</td>
</tr>
<tr>
<td>Knowledge and Understanding of ADHD</td>
<td>90</td>
</tr>
<tr>
<td>Response to the Collaborative Learning Community Experience</td>
<td>91</td>
</tr>
<tr>
<td>Case Two: Connie</td>
<td>93</td>
</tr>
<tr>
<td>Professional Learning</td>
<td>93</td>
</tr>
<tr>
<td>Preservice</td>
<td>93</td>
</tr>
</tbody>
</table>
Chapter 5: Cross Case Analysis and Discussion

Introduction

Finding #1: Participants’ Literacy Teaching Was Positively Influenced by Their Participation in the CLC

Greater Knowledge
Greater Understanding
Increased Compassion
Shifts in Literacy Practice

Literacy instructional strategies
Strategies for behavior
Routines
Improving executive functioning
Increased Self-Efficacy
Decrease in Feelings of Stress

Finding #2: Collaborative Learning Community Elements That Supported and Promoted Learning

Opportunity to Work With Colleagues
Common experiences
Shared enterprise: Becoming a community
Peer observations
Teacher Input on Format and Content
Choice from the start
Balance of external input and group sharing
Format
Scheduling
Content of the PD
Repeated Opportunities to Reflect on and Refine Teaching Practice
Opportunities for reflection

Finding #3: Personal and Contextual Factors Which Shaped the Process

Challenges During Their Own Schooling
Wendy
Connie
Kathy
Prior Teaching Experience With Students With Characteristics of ADHD .............. 173
Chapter Summary ........................................................................................................ 174

Chapter 6: Conclusion .................................................................................................. 175
Introduction .................................................................................................................. 175

Summary of the Main Findings ..................................................................................... 176
Teachers’ Literacy Teaching Was Positively Influenced ............................................. 176
Elements That Supported and Promoted Learning ...................................................... 178
  Opportunity to work with colleagues...................................................................... 178
  Participant ownership over process and content..................................................... 179
  Repeated opportunities to reflect on and refine literacy teaching practice.......... 180
Personal and Contextual Factors Which Shaped the Process ..................................... 181

Implications and Recommendations ........................................................................... 182
Implications for Literacy Instruction .......................................................................... 183
Implications for Preservice Education ....................................................................... 184
Implications for In-Service Teacher Education .......................................................... 184
  Ministries of Education ......................................................................................... 185
  Districts of Education ............................................................................................ 185
Implications for Further Research ............................................................................. 186
Connections Between This Investigation and My Teaching Practice ....................... 187

References .................................................................................................................... 191
List of Tables

Table 1 Teacher Background Information ................................................................. 64
Table 2 Overview of Collaborative Learning Community Meetings ........................... 79
List of Appendices

Appendix A Participant Consent Letter ........................................................................................................... 211
Appendix B Questions for Interview #1 ............................................................................................................. 214
Appendix C Questions for Interview #2 ............................................................................................................. 216
Appendix D Questions for Interview #3 ............................................................................................................. 217
Appendix E Case Study Example #1 ................................................................................................................ 218
Appendix F Case Study Example #2 ................................................................................................................ 221
Appendix G Talking Points for Parents ............................................................................................................. 223
Chapter 1:
Introduction

Introduction to the Study

I have worked as an elementary teacher, educational consultant and, most recently, as a teacher educator. Through these experiences, I have come to appreciate the importance of ongoing teacher professional development. The link between student learning and educator learning is clear. Research studies show that inspiring and informed teachers are the most important school-related factors influencing student achievement (Darling-Hammond, 2006; Jaquith, Mindich, Wei, & Darling-Hammond, 2010). As Eisner (2002) suggests, the growth of our students will go no farther than the growth of those who teach them. It is therefore critical that we pay close attention to how we support the professional learning of educators in the classroom.

Elementary teachers are confronted with a number of complex demands and challenges in their daily work. They are expected to know content and pedagogy, to meet the needs of, on average, 25 diverse learners each day, to develop positive personal relationships with each of their students, and to manage classroom climate and behaviour. They are also being asked to keep pace with growing diversity in the classroom, and to address the myriad learning needs that diversity generates.

Teacher professional development keeps teachers up-to-date with new research on how children learn, and on new and existing teaching resources and strategies to help meet their needs. Good teacher professional development also gives educators an opportunity to challenge their thinking and engage in meaningful exploration of their own teaching practices.
As research has suggested, teacher professional learning is a complex process; it encompasses teachers having the opportunity to learn, teachers learning how to learn, teachers becoming successfully more sophisticated in their ideas and skills over time, and teachers transforming their knowledge into practice for the benefit of their students’ growth (Darling-Hammond, 1997; Joyce & Showers, 1995; Schneider & Plasman, 2011). Research also suggests that not every form of professional development is relevant to all teachers. This is why it is imperative that we investigate which types of professional development are relevant for teachers and why.

**Purpose of the Research**

In framing this study, I knew I was interested in studying teachers and their experiences. I wanted an opportunity to sponsor teachers’ voices – to present an articulation of their observations, their perspectives, their thoughts, and their ideas related to their teaching and learning experiences. I was interested in participating in a mode of research that would provide an opportunity for teachers’ voices to be “heard, heard loudly, heard articulately” (Goodson, 1992, p. 36).

Specifically, I wanted to investigate and understand, from a detailed perspective, the experiences of teachers who were involved in professional development that was constructed as a learning community. I was interested in knowing how teachers would experience a learning community that promoted their understanding of ADHD and their use of effective literacy teaching practices for students with characteristics of ADHD. Although much has been written on teacher involvement in learning communities (e.g., Barth, 1990; Wenger, 1998), there is limited information on the details of how teachers experience them. As Hargreaves and Fullan (1992) suggest, the most suitable place to begin educational change efforts is with the teacher.
By understanding the influence of specific professional learning on the topic of ADHD on teachers' experiences and practice in the classroom, we may learn how to better prepare our teachers for this population.

**Background**

It is estimated that there is at least one student with ADHD in every regular education classroom (American Psychiatric Association, 2000; Barkley, 2005; DuPaul, Stoner, & O'Reilly, 2002; Rogers, Wiener, Marton, & Tannock, 2009). Furthermore, recent studies have demonstrated that symptoms of ADHD are expressed across a continuum of risk (Levy, Hay, McStephen, Wood, & Waldman, 1997; Polderman et al., 2007). Teachers will have students who have characteristics of ADHD, such as inattentiveness or hyperactivity, but do not have a diagnosis of ADHD. Regardless of whether students have been formally identified with ADHD or not, if they display inattention and/or hyperactivity they are likely at high risk for poor academic achievement and school dropout (Breslau et al., 2009; Currie & Stabile, 2006; Fletcher & Wolfe, 2008). Particularly, children with ADHD also often have significant difficulties with their reading and writing (Tannock, 2007).

While these findings suggest that teachers need a good understanding of the types of educational approaches that can support these students (Martinussen, Tannock, & Chaban, 2011), studies report that teachers have limited knowledge of ADHD, its effects on school functioning, and appropriate adaptive or inclusive strategies (Kos, Richdale, & Hay, 2006; Martinussen, Tannock, Chaban, McInnes, & Ferguson, 2006). This is due, in part, to a lack of opportunity for professional learning in this area (Barbaresi & Olsen, 1998; Bussing, Gary, Leon, Wilson Garvan, & Reid, 2002; Jerome, Gordon, & Hustler, 1994; Tannock, 2007). Teachers cite lack of professional learning on the topic of ADHD as one of the major barriers to providing...
effective instruction for students with ADHD (Bekle, 2004; Bussing et al., 2002; Martinussen et al., 2011; Rush & Harrison, 2008; Westling, 2010).

This is of considerable concern, as enabling learning for all students requires knowledge about how students learn differently and the kinds of teaching strategies that are most effective for different kinds of learning (Barkley, 2005; Darling-Hammond et al., 2005; DuPaul & Stoner, 1994; Jordan, Schwartz, & McGhie-Richmond, 2009). Most alarming is that eventually, well-meaning but unskilled teachers may give up on students who they have not yet learned to teach (Darling-Hammond et al., 2005). DuPaul and Stoner (1994) assert, “it is quite humbling to realize that although our understanding of ADHD has greatly advanced over the last decades, children with this disorder continue to encounter significant difficulties in succeeding in our schools” (p. 236). Lack of opportunity for professional learning on this topic appears to contribute significantly to this problem.

There is ample research to suggest that students with ADHD can be academically and socially successful within the general education classroom if teachers know more about how to make the necessary modifications for them (Barkley, 2005; Harjacher, Roberts, & Merrill, 2006). There are a limited number of studies investigating in-service professional development for teachers of students with ADHD. Documented studies focus on teachers’ knowledge and attitudes, and rely on teacher self-report measures immediately following in-service training (Jones, Daley, Hutchings, Bywater, & Eames, 2008; Kos et al., 2006). These studies show that professional development programs can lead to improvement in teacher's knowledge about ADHD, but they provide only limited insight into teachers’ detailed responses to the program or subsequent changes in their teaching practice with students.
The majority of these studies examine didactic, 1- to 2-hour, professional development workshops (Bos, Nahmias, & Urban, 1997; Jones et al., 2008). There is little empirical data to indicate that this type of PD is effective in enhancing the skills of educators. Research on professional learning that is conducted collaboratively, that occurs over an extended period of time, and that includes opportunities for teachers to receive coaching and feedback shows much more promise (Desimone Porter, Garet, Yoon, & Birman, 2002; Leko & Brownell, 2009). Few studies have consulted teachers about their professional development experiences on the topic of supporting students with characteristics of ADHD, particularly in their literacy learning.

**Personal Background**

Research and its fieldwork requires both personal and professional commitment; consequently, research topics should be chosen on the basis of what researchers feel is most meaningful and worthwhile to them (Wolcott, 1995). This personal element inherent in topic selection will, according to Wolcott, have important consequences for the trustworthiness of a study. Researchers need to be acutely aware of their reasons for conducting a particular study (Marshall & Rossman, 1995; Maxwell, 1996, 2005) and be conscious of personal motivations behind their chosen topic in order to anticipate and address bias concerns.

In trying to understand and articulate my own motives for undertaking this study, I have identified three principal sources of inspiration: my elementary teaching experience, my personal/familial connection to ADHD and, finally, my recent professional development work with teachers. The following is an overview of how these three influences have shaped my own journey and led me to this study.
**Elementary Teaching Experience**

I was an elementary teacher for over 12 years – a classroom teacher as well as a school literacy specialist. I have had several students through the years who have been identified as having ADHD or the characteristics associated with ADHD. As a teacher I was trained to modify my instruction to accommodate students’ diverse learning needs. I have received extensive training in the area of literacy and earned an MA in Language and Literacy Education, a Specialist Credential in Reading and Language Arts, and an early literacy intervention certification. I was comfortable and confident in my pedagogical approach and I had a good deal of success in creating optimal learning environments for striving readers and writers.

While these adaptive literacy teaching strategies were successful with many striving readers, they were not successful with all. I was trained, and understood, how to adapt my instruction for many diverse learning needs, but I had not learned how to teach striving readers who simply could not sustain their attention long enough to learn what they needed to. In truth, I often found myself frustrated and at a loss as a result. Many of my teaching colleagues, I found, felt the same way.

It is difficult to admit, but with little understanding then around the academic implications of ADHD, I realize now that I frequently made instructional decisions that were in direct contrast to what my students needed for success. I had, for example, a student in Grade 5 named Matthew who was identified with ADHD. Matthew was a bundle of energy and humor. He talked quickly and incessantly, and he had a sparkling kind of mind. Matthew also struggled academically – especially in his reading and writing. He was also frequently so distracted that he often spent only a minute or two out of every 15 minutes focusing on his work. My colleagues and I assumed this meant he would simply need more time because he was missing valuable
minutes to distraction. After all, psycho-educational testing did not reveal a learning disability of any kind. Giving extra time for a task was a generally agreed upon accommodation for many students who were struggling. So, when given the task of a writing assignment, or written test, I gave Matthew more time to complete them. Invariably, this did not help Matthew and only ended up adding to his frustration and mine.

I mistakenly assumed that if Mathew had ADHD, it simply meant that he would have a harder time managing his behavior. I did not realize that cognitive challenges made it more difficult for him to remember more than a few instructions at a time, to come up with ideas for his writing, to plan and organize the structure of his writing and to write neatly and coherently. It was not until several years later, when I had a personal/familial experience with the learning challenges associated with ADHD, that I could fully appreciate the breadth and particulars of Mathew’s struggle.

**Family**

My 13-year-old nephew, Noah, is one of the lights of my life. He is creative, compassionate and kind, highly intelligent, a deep and original thinker. Despite all of these wonderful characteristics, he experienced formidable challenges from his first day in the general classroom environment. It was not until he was in Grade 2 that we better understood why: he was identified with what is considered the combined type of ADHD. He had difficulty sustaining attention and also had hyperactive and impulsive behaviors beyond what is expected for his age group. These characteristics did not stand out as particularly problematic before he entered the school setting, but once he entered the classroom there was an obvious incongruity between his natural way of being and the requirements of the classroom setting.
As is typical for children with characteristics of ADHD, Noah found it very difficult to stay in his seat for any length of time; this also made it very difficult for him to complete his work. Impulsive behaviors began to surface and he often found himself sitting in the principal's office. He was, as a result, missing a lot of instructional time and was beginning to fall behind. As Noah did not complete his work at the same speed at which the other students in the class did, he was often forced to miss recess to catch up. Without much-needed energy-consuming play, he exhibited more inattentive, hyperactive and impulsive behaviors which, in turn, led back to the principal’s office and away from more classroom instruction. It was a challenging time for Noah, and for my sister and brother-in-law.

Fortunately, things started to improve for Noah towards the end of the second grade. Medication was helping control some of his inattention, hyperactivity, and impulsiveness. His parents were gaining a better understanding of ADHD and learning how to support him at home and in the school environment. My sister worked very hard to establish a firm partnership with Noah's teachers each year. She knew that even though psycho-educational testing had identified Noah’s ADHD, it would not guarantee him any classroom accommodations or extra support. This is because ADHD was not yet officially recognized in any of the categories of exceptionality within the province of Ontario. As a result, individual boards, schools, or teachers were often left to make decisions about the kinds of services and support a child with ADHD will receive.

Given the ad-hoc support framework around ADHD, my sister quickly learned the importance of her advocacy on Noah's behalf. As each school year drew to a close, I recall my sister already beginning to think about whom Noah's teacher would be for the following year. Would he or she be a keen observer of Noah's strengths and challenges? Would he or she
appreciate the gifts in his way of being and be open to considering the kinds of adaptive teaching strategies that worked best for his learning style? Would he or she understand that the characteristics of ADHD are often a result of neurological events and not simply the consequence of a student's unwillingness to comply? My sister’s constant presence and input certainly helped to ensure Noah's teachers had a general understanding of ADHD and the kinds of strategies that would help support Noah in the classroom each year. It was a part-time job in, and of, itself.

Noah’s early challenges and experiences contributed to my own growing interest in ADHD – from both learning and teaching perspectives. As I studied and learned more about ADHD and the tools and strategies available to support students’ learning, I often reflected back on Matthew and other children with ADHD or characteristics of ADHD I had taught throughout the years. I came to learn that it is not particularly helpful to give students with characteristics of ADHD the standard extra time accommodation. It can, in fact, exacerbate attention deficit issues, primarily because many students with ADHD have cognitive difficulties with their executive functioning - with their working memory, as well as with their processing speed. In order to reduce the cognitive load and avoid overloading student’s working memory, many of these students need work broken up into smaller chunks. They also need small and regular breaks throughout their work in order to optimize their attention and concentration. This is referred to as “time off the clock” (Barkley, 2009). It entails giving students an opportunity to take a break without including those “off the clock” minutes in a timed assignment or test. Students still end up having more time to complete their writing assignment or test, but they are not expected to sit through more active work time. Expecting Matthew, Noah, or students with similar
characteristics, to sit at their desks and focus for an *even longer* period of time, only adds to their core attention-related struggle.

As I thought about my nephew, and Matthew, and my days as a teacher, I wondered how things may have been different had I had the opportunity to learn more about the academic implications of ADHD and about supportive strategies like time off the clock earlier in my career. Perhaps my students would have been happier and more successful. Perhaps I would have felt more empowered and more confident in my abilities as well. Why had I not been trained in the appropriate academic interventions for students with inattention and hyperactivity? How would my students’ experiences have been different if I knew then what I was now learning? Furthermore, how might this knowledge have benefited all of my students? The same instructional practices could be considered best practices for all students in the general education classroom.

Did other general education classroom teachers feel the same way as I did? If they did, would they be interested in the opportunity to learn more about ADHD, and what would the professional development need to look like in order for them to participate?

**Professional Development**

The opportunity to know more about teachers’ experiences, thoughts, and perspectives came about both anecdotally through conversations with teachers and formally through an ethically approved survey. As people in the teacher education community became aware of my growing knowledge in the area of ADHD in schooling, I began to be invited to deliver 2- to 3-hour workshops on the topic of supporting students with characteristics of ADHD. Though I was under no illusion that a short workshop could change practice in a profound way, I took the opportunity to speak with teachers because I was becoming increasingly committed to disrupting
commonly held and often erroneous understandings about students with ADHD. I presented in numerous teacher education, Masters, and additional qualification courses, as well as to school staff members in both Canada and the United States. As I write this thesis, I have presented to well over 1,000 teachers on this topic.

Anecdotally, I found out a great deal from speaking with, and hearing from, hundreds of teachers along the way. I found out, as research supports, that the majority of teachers have very little understanding about the educational implications of ADHD and the kinds of strategies that can be most supportive for their students. I also learned of the kind of professional development they wanted in order to deepen their knowledge in a meaningful way.

They commented on wanting more time on this topic, more opportunities to learn about other teachers’ classroom practices and strategies. They wanted to have opportunities to try out new strategies and have an opportunity to come back and share and receive feedback about these attempts. This seemed to be of great importance to them. They felt that ongoing follow up would help keep them accountable and help create sustained change.

I decided to gain ethical approval to formally survey teachers about their opinions and experiences of both teaching students with characteristics of ADHD and participating in professional development on the topic. I wanted to investigate whether teachers had been trained on this topic and if not, I wanted to know if they would be interested. I created an online survey and gained participants through a snowball effect. The survey was seeded through a convenience sample of a small group of teachers. These teachers were asked to pass the link on to other teachers. One hundred thirty-one Ontario teachers responded to the survey.

As I suspected, the majority of teachers in my survey reported being highly interested in receiving professional development on the topic of supporting students with characteristics of
ADHD. The majority of the respondents taught in the general education classroom, had more than 5 years of teaching experience, had never had specific training on the topic of ADHD, and did not feel confident about their strategies for this population. Perhaps not surprising, 80% of respondents said teaching students with characteristics of ADHD made their jobs more difficult. Eighty-nine percent reported wanting an opportunity for professional learning on the topic of teaching strategies for students with ADHD. Specifically, teachers were interested in professional development that involves active participation by teachers, that takes place during school hours, includes collaboration with colleagues, and that is directed by the participants.

After speaking with hundreds of teachers and surveying them, my dissertation topic began to fully crystallize. Survey findings confirmed teachers’ interest and eagerness to participate in professional development devoted to the topic of ADHD. With this confirmation I further clarified my focus. How would teachers experience a professional development that was crafted and based on what they were interested in knowing and based on how they were interested in learning it? And there was my study.

**Research Questions**

This dissertation outlines the experiences of five classroom teachers as they collaborated to improve their literacy teaching for students with characteristics of ADHD.

The following questions guided my inquiry:

1. How did the teachers’ participation within the collaborative learning community influence their literacy teaching experiences?

2. What conditions supported and promoted learning for the participants in the collaborative learning community?
3. What personal or contextual factors shaped the participants’ experiences within the collaborative learning community?

Definition of Terms

In this section, I define the terms which are used throughout the dissertation.

Attention Deficit Hyperactivity Disorder (ADHD): is a result of neurobiological events that interfere with an individual's capacity to do the following in, what is considered to be, developmentally appropriate ways: attend to task at hand (inattention); regulate activity level (hyperactivity); inhibit behavior (impulsivity).

Characteristics of ADHD: term used to describe an individual who has characteristics of ADHD without having a formal diagnosis of ADHD. The characteristics of ADHD are inattention, hyperactivity, and impulsivity.

Elementary General Education Classroom Teachers: for the purposes of this dissertation, elementary general education classroom teachers are defined as practicing teachers (that is, qualified teachers who are teaching in elementary schools) who teach the same students multiple subjects, such as language arts, mathematics, science, and so on. Elementary classroom teachers stand in contrast to elementary specialist teachers, who may have a subject specialization in, for example, literacy, music, or ESL.

Professional Development (PD): professional development can come in various forms: collective or individual development, continuing education, preservice and in-service education, group work, team curriculum development, peer collaboration, and peer support. It is the sum total of formal and informal learning experiences throughout one's career.
**Collaborative Learning Community (CLC):** is a group of individuals joining together, with shared responsibility and with a shared purpose of accelerating knowledge in a particular area.

"Clipboard": a term used as an analogy throughout collaborative learning community meetings to refer to a student’s mental workspace in working memory.

**Format of Thesis**

This thesis is organized in five chapters. In Chapter 1, I introduce the problem to be researched, its significance, my personal background related to the research issue, and the main questions that drive the research.

Chapter 2 reviews the scholarly literature as it relates to the research questions. Particularly, I review the literature pertaining to ADHD in the context of the school setting, literacy research related to learning challenges, and teacher professional development, both generally and in the area of ADHD.

Chapter 3 presents and justifies my research methodology, data collection methods, and methods of data analysis. The professional development model in the form of a collaborative learning community is described. Research limitations and ethical considerations involving the teacher participants are also considered.

Chapter 4 introduces the presentation and discussion of my findings. I do this through individual case studies of five participants. Chapter 5 is a continuation of the presentation and discussion of my findings through a cross case analysis of three key themes. The findings for both Chapters 4 and 5 emerge from the participants’ experiences in the collaborative learning community, their classroom experiences before, during, and after their PD experience, and their
personal and professional histories and contexts. Through each theme in Chapter 5, there is discussion in which findings are situated within the literature.

Chapter 6 includes a summary of the main findings of this study, discussion of implications and recommendations for classroom practice, preservice and in-service teacher education, and suggestions for future research. This chapter concludes with a reflection on how this study has influenced my practice as a teacher educator.

**Chapter Summary**

In this chapter I present a rationale for studying the experiences of classroom teachers involved in professional development in the form of a collaborative learning community. The purpose and background of the study is described. Following this, I outline my personal interest in the research, and the reasons why I was motivated to complete this study. Next, I present the research questions which drive the study. I conclude this chapter with a definition of key terms in the study and a general outline of the format of this thesis. In Chapter 2, the next chapter, I review both the theory and research that have informed this study.
Chapter 2
Review of Literature

Introduction

As described in Chapter One, this dissertation is an investigation into elementary classroom teachers’ perspectives on and experiences in a CLC focused on literacy teaching strategies for their students with characteristics of attention deficit hyperactivity disorder (ADHD). The purpose of this chapter is to review the scholarly literature as it relates to the research questions.

I begin this chapter by providing an overview of the importance of literacy in Canadian society and by examining the possible ability-based barriers to literacy learning, including issues related to characteristics of ADHD. The chapter continues with a discussion of the most recent research on the nature of ADHD. This discussion is not exhaustive; it briefly describes the nature of ADHD in general and how it relates to students in the educational setting. I conclude this section with an overview of how characteristics of ADHD may contribute to literacy learning challenges.

This chapter then turns to the literature on how students with special education needs are supported within the publicly funded schools in Ontario where this study took place. I also discuss how students with ADHD are situated within the system of special education. Next, I discuss both preservice and in-service teacher education as they relate to the preparation of teachers who may be teaching students with characteristics of ADHD. I continue with a review of the scholarly literature on teacher professional development in general. Finally, I review the literature on teacher knowledge and professional learning on the topic of ADHD.
The Importance of Literacy in Canadian Society

Literacy is foundational. The acquisition of language and literacy skills is so important that it has been found to be directly related to overall health status, mental health status, lifestyle, income, and living and working conditions (Wade-Woolly, 2011). According to the 2009 National Strategy for Early Literacy Report prepared by the Canadian Language and Literacy Research Network (CLLRN) (2009), “health status, socioeconomic status, and literacy are strongly interconnected and interrelated” (CLLRN, 2009, p. 5) in Canadian society. While literacy reduces barriers to obtaining psychological, physical, economic, and social well-being, poor literacy levels can lead to a lifetime of economic and social insecurity (Maxwell & Teplova, 2007).

Considering that low literacy is a barrier to full participation in society, it is concerning to consider that 20 to 40% of current Canadian students do not have the standard literacy skills necessary to compete in a global economy (McCracken & Murray, 2009). The most vulnerable populations are children with special needs, Aboriginal children, English as a second language/French as a second language learners, and children in rural areas (CLLRN, 2009). It is important to note that Willms (2002) reports 60% of Canada’s children who are vulnerable to literacy learning challenges are from middle class and affluent families. It is therefore essential to address the literacy learning needs of all children, regardless of the socioeconomic status of the family. According to Wade Woolley (2011) it is of paramount importance that we research and understand what teachers need to know and need to be able to do in order to teach children to read, write, and be competent users of contemporary literacies. Currently, there is still much to be learned about the diverse literacy learning needs of our students, and the most effective ways to prepare teachers to meet those needs.
Barriers to Literacy Learning

As we have seen, literacy – the ability to understand and use information through the printed word – is essential for the economic, academic, and social success of individuals (CLLRN, 2009). There are many factors that influence the successful learning and teaching of literacy. For instance, to effectively prepare students for success, teachers of literacy need to consider diversity along a number of dimensions: developmental, social, economic, gender, ethnic, sexual orientation, cultural, linguistic, and ability based (Wade-Woolley, 2011). Literacy acquisition is shaped by this diversity.

Teachers must also consider the range of challenges that may exist as a result of this diversity and that may contribute to difficulties acquiring strong literacy skills. These barriers create great diversity in how children learn to read and write in the classroom. By having a greater understanding of these barriers, teachers can be better prepared to foster equity in their classrooms and increase, “opportunities for the affected individuals to be successful” (Wade-Woolley, 2011, p. 19). The following section outlines some of the ability-based barriers to literacy.

Ability Based Barriers to Literacy

Children with various types of disabilities often have significant challenges with their literacy development. For example, children with sensory deficits, such as those related to hearing and vision, often have serious difficulties with literacy. Children who are deaf or hard of hearing typically graduate from high school with reading comprehension skills at approximately the fourth grade level (Traxler, 2000). As well, it is estimated that many children with learning difficulties have an undiagnosed vision problem. Undetected vision problems can cause a failure to learn at the same rate as peers, negative self image, discipline problems, a possible need for
special education, young offender risks, and increased dropout rates (Vaughn, Maples, & Hoenes, 2006). Children with autism often have several factors contributing to their difficulties learning to read; these include difficulties with attention, language, and social interaction (Vacca, 2007). Perhaps the largest group of students likely to have literacy challenges are those with learning disabilities.

According to Statistics Canada (2007), students with learning disabilities have weaker literacy skills than those without a disability. This is alarming considering Statistics Canada estimates that approximately 5% of Canadian children between the ages of 5–14 are affected by some type of disability – with 69% of these having a learning disability. Although students with emotional or behavioral disorders are a much smaller group than students with learning disabilities, their educational outcomes tend to be more negative (Maccini, Gagnon, & Hughes, 2002). Teachers often end up focusing more of their attention on managing student behaviors and less on literacy achievement (Wade-Woolley, 2011). Perhaps one of the least understood group of children who have difficulties with language and literacy skills are those with characteristics of ADHD. Children with ADHD often have lower levels of reading achievement than their typically developing peers (Fraser, Youngstrom, Glutting, & Watkins, 2007), particularly if they have issues of inattention (Todd et al., 2002). Weaknesses in written expression are also common in children with ADHD (Mays & Calhoun, 2006). Studies report that links between symptoms of ADHD and lower literacy are already apparent in kindergarten (Willcutt, Doyle, Nigg, Faraone, & Pennington, 2005).

Although there are many reasons why children have challenges acquiring an adequate level of literacy, the teacher's role in literacy acquisition for these students is critical (Boyd, Grossman, Lankford, Loeb, & Wycoff, 2009). In order to meet the needs of their students,
teachers must have a strong and current knowledge base that encompasses content and pedagogical ability (International Reading Association, 2007). Furthermore, effective teaching requires that teachers are supported to understand and respond to students’ diverse needs (Jordan et al., 2009). For students with characteristics of ADHD, this means ensuring that teachers have opportunities to learn about and understand the nature of ADHD, how this affects student learning, and how to make the necessary classroom environmental and instructional modifications for them (Barkley, 1998, 2005; Carbone, 2001; Tannock, 2007). The following section provides an overview of attention deficit hyperactivity disorder.

Understanding Attention Deficit Hyperactivity Disorder (ADHD)

In the past decade there has been a notable increase in both scientific and public interest on the topic of ADHD. It is also a topic about which there has been much heated debate. ADHD is often mistakingly considered to be a behavior disorder characterized by hyperactivity in children and excessive restlessness or impulsivity in adults (Brown, 2009). Despite controversy and criticism surrounding ADHD, especially related to how it is diagnosed and treated, there is ample scientific evidence confirming its existence as a cognitive disorder and its detrimental impact on individuals (American Psychiatric Association, 2000). ADHD is considered a neurobiological disorder characterized by impairing levels of inattention, impulsivity, and hyperactivity (American Psychiatric Association, 2000). ADHD is also recognized as a highly prevalent and chronic mental health disorder that is often associated with functional challenges across a range of domains (e.g., academic functioning, emotional functioning, peer relations) (Barkley, 1990; DuPaul et al., 2004; Hoza et al., 2005; Martinussen et al., 2006). Recent studies have also demonstrated that the symptoms of ADHD are expressed across a “continuum of risk” (Levy et al., 1997; Polderman et al., 2007). As a result, many individuals exhibit characteristics
of ADHD such as inattentiveness, hyperactivity, or impulsiveness, but do not meet the criterion for a formal diagnosis of ADHD. Regardless of whether an individual is formally identified with ADHD or not, if they display the characteristics of ADHD they are as likely to have the difficulties associated with them (Tannock, 2007). This deepens the importance of having a good understanding of what having characteristics of ADHD means.

**Subtypes of ADHD**

The Diagnostic and Statistical Manual of Mental Health Disorders (American Psychiatric Association, 2000) recognizes three subtypes of ADHD based on the type of behaviors that are most prominent:

1. predominantly inattentive type;
2. predominantly hyperactive and impulsive type; and
3. combined type – a combination of inattention, hyperactivity, and impulsivity.

The two most prevalent subtypes are the combined and the predominantly inattentive subtypes.

Individuals with the predominantly inattentive type of ADHD may fail to pay close attention to details or make careless mistakes (American Psychiatric Association, 1994). They often have difficulties with organizing and following through on tasks and activities and are easily distracted. Those with this subtype are also less likely to have impairing levels of hyperactivity and impulsivity. Individuals with the predominantly hyperactive and impulsive type are less likely to have issues of inattention. This subtype is the least prevalent. Finally, individuals with the combined type of ADHD show characteristics of inattention, as previously described, as well as characteristics of hyperactivity, and impulsivity. Females with ADHD are
more likely to have the inattentive type, while males with ADHD are more likely to have the combined type (Biederman, Monuteaux, & Doyle, 2004).

**Diagnosis**

A diagnosis of ADHD is made when the behaviors associated with inattention, hyperactivity, and impulsivity severely interfere with a person's work, relationships, or study. It is based on a clinical picture that begins before the age of 7, is pervasive across different settings, is persistent over time, and causes functional impairment in more than one setting, typically at home and at school (American Psychiatric Association, 2000). Though researchers identified characteristics of ADHD as early as 1902, the condition was misunderstood for years. Inaccurate labels were applied, such as moral deficit and minimal brain dysfunction (Carbone, 2001; Turnbull, Turnbull, Shank, & Leal, 1999). ADHD was once thought of as a behavioural disorder, but recent research has led to the current understanding of ADHD as a brain-based disorder. New findings suggest ADHD is a neurobiological disorder that interferes with executive functioning, working memory (a subset of executive functioning), and processing speed (Barkley, 2005).

**Executive Functioning**

Research findings have shown that ADHD is often associated with executive function weaknesses (Barkley, 2005; Brown, 2009; Tannock, 2003). Executive functions are the mental processes that help guide our thoughts and behaviors. Executive functions are often characterized as the chief executive officer (CEO) or conductor of the brain (Martinussen, Tannock, McInness, & Chaban, 2005). Like a CEO of a company who is in charge of orchestrating the planning, organizing, and guidance of various departments that make up the company, our executive functions are similarly the overseers of our brains. They help us to regulate our attention,
determine appropriate behavior, regulate emotions and actions, and help us develop, prioritize, organize, and execute a plan of action (Murphy, 2011).

In the context of ADHD, executive functions weaknesses often result in individuals having chronic difficulties with managing the multiple tasks of daily life. For example, individuals may have challenges planning ahead, evaluating the past, and monitoring future behavior, sustaining attention to a task, managing time, and achieving a goal without distraction (Barkley, 2005).

Given the importance of executive functions in supporting academic performance and regulating behavior, it is not surprising that the presence of executive function weaknesses has been linked to poor academic outcomes (Barkley, 2005; Bekle, 2004; Martinussen et al., 2005; Tannock, 2003, 2007).

**Working Memory**

Individuals with ADHD have also been found to exhibit deficiencies in working memory (Barkley, 1997; Martinussen, et al., 2005; Willcutt et al., 2005). Working memory holds information in the mind in order to guide subsequent behavior (Barkley, 2012). It facilitates the monitoring of our attention and helps us to resist distraction during tasks that require sustained attention (Martinussen et al., 2005). Measures of working memory capacity are strongly related to performance and other complex cognitive tasks such as reading comprehension and problem solving (McInnis, Humphries, Hogg-Johnson, Tannock, 2003). Studies suggest that working memory is a vital executive function that is required for monitoring progress, exhibiting self-awareness of strengths and needs, independently reflecting on actions, and following directions and performing complex tasks (Engle, 2002).
**Processing Speed**

Processing speed refers to the rate at which individuals process incoming and outgoing information (Martinussen et al., 2005). More specifically, processing speed refers to how quickly and efficiently an individual gathers, manipulates, stores, retrieves, and classifies information. Researchers suggest that individuals with ADHD, particularly those who display inattentive symptoms, have been shown to have particularly slow information processors (Willcutt et al., 2005).

**ADHD in the Context of Schooling**

Over the course of the last decade, ADHD has become a key center of debate among parents, teachers, and medical professionals. In fact, a number of researchers question the validity of such a disorder, citing that too many children are assigned a diagnosis of ADHD (Freed & Parsons, 1997; Kaufman, 2005; Morrow et al., 2012). Despite the existing skepticism, ADHD is a well-validated clinical diagnosis. It is the most commonly studied and diagnosed psychiatric disorder in children, and is estimated to affect approximately 5% of children globally (American Psychiatric Association, 2000; Faraone, Sergeant, Gillberg, & Biederman, 2003; Polanczyk, Lina, Horta, Biederman, & Rohde, 2007). Many researchers believe this prevalence of ADHD translates into, on average, one student with ADHD per general education classroom (American Psychiatric Association, 2000; Barkley, 2005; DuPaul et al., 2002; Polanczyk et al., 2007; Rogers et al., 2009).

Students with attention deficit hyperactivity disorder represent a large number of children with significant behavioral and academic challenges within general education (Barkley, 2005; Greenhill, 1998; MTA Cooperative Group, 1999; Zentall, 2006). The effects of ADHD greatly influence the functioning of children in school because, in part, it is the very tasks and
behaviours that are expected within the school environment that are most challenging for them (Sciutto, Terjesen, & Bender Frank, 2000).

Many of the core characteristics of ADHD – inattention, impulsivity, and hyperactivity – interfere with a student's ability to effectively and consistently meet the demands of the classroom. These characteristics can impinge on academic, behavioral, and social and emotional domains of functioning within the classroom setting (Barkley, 2005, DuPaul & Stoner, 1994; Rogers et al., 2009; Shapiro, DuPaul, Bradley, & Bailey, 1996; Zentall & Javorsky, 2007).

Research has shown that symptoms of inattention in children with ADHD put them at considerable risk for poor academic outcomes (Breslau et al., 2009; Currie & Stabile, 2006; DuPaul et al., 2004; Fletcher & Wolfe, 2008; Martinussen et al., 2006; Vitaro, Brendegen, Larose, & Tremblay, 2005). This is despite the fact that they tend to have average or above-average intellectual abilities (Tannock, 2007).

Students with ADHD may underperform on school tasks in relation to their intellectual ability. This is, in part, because they often fail to follow directions, have poor work accuracy and completion, have lower rates of engagement in their academic work, have difficulty sustaining attention to instructions, demonstrate poor test performance, and exhibit learning difficulties (DuPaul et al., 2004; Martinussen et al., 2006). These persistent academic difficulties often result in lower than average marks, higher than average rates of failure, and higher rates of placement in special education. These difficulties result in more expulsions, increased dropout rates, and lower achievement scores in reading and mathematics compared to students without ADHD (Barkley, 1990; Martinussen et al., 2006; Tannock, 2007).

Behaviorally, students with ADHD-related characteristics have been found to be disruptive in the classroom to both teachers and other students (DuPaul et al., 2004; Pfiffner &
Barkley, 1990). Common ADHD-related behaviors include restlessness and excessive motor movements such as repeatedly getting out of their seats, playing with objects, and repeatedly tapping their hands and feet (DuPaul & Stoner, 1994). In addition, many students call out without raising their hands, initiate conversation at inappropriate times, and become angry when presented with challenging tasks (Barkley, 2005; DuPaul & Stoner, 1994). They often are easily distracted by outside stimuli, talk excessively, play disruptively, and have difficulty achieving goals without distraction (Frederick & Olmi, 1994). Students with ADHD also have a tendency to be disorganized. They tend to lose or misplace books, pens, homework, and other materials needed to complete schoolwork (American Psychiatric Association, 2000; DuPaul & Stoner, 2003).

Using data from the largest and most comprehension treatment study ever conducted on ADHD (MTA Cooperative Group, 1999), researchers compared differences in observed classroom behavior in 502 pairs of children, with and without ADHD. The children with ADHD were observed to have higher rates of off-task behaviors, hyperactivity, intrusion, noncompliance, and verbal aggression toward their classmates and teachers than children without ADHD. The results from this large sample of children are consistent with earlier smaller scale observational studies of children with ADHD (Abikoff, Gittelman-Klein, & Klein, 1977; Atkins, Pelham, & Licht, 1985; Zentall, 1980).

Socially and emotionally, students with ADHD tend to display reduced self-esteem, poor coping skills, and low frustration tolerance (Barkley, 2005; DuPaul & Stoner, 1994; Wheeler & Carlson, 1994). Children with ADHD are often considered controlling, troublemakers, and aggressive by their teachers and peers (Clark, Margot, & Kinsella, 2002; Erhardt & Hinshaw, 1994; Hinshaw & Melnick, 1995). They often have difficulties reading social cues from their
peers and respond inappropriately as a result (Atkinson, Robinson, & Shute, 1997). This is, perhaps, why research has consistently shown that children with ADHD have a great deal of difficulty with forming and maintaining friendships with peers (e.g., Hinshaw & Melnick, 1995; Barkley, 1998; Pfiffner & McBurnett, 1997). According to Wheeler and Carlson (1994), children without ADHD report not wanting to befriend their peers with ADHD, particularly those who have difficulties with overactivity (Jenkins & Batgidou, 2003). According to Gresham, Macmillan, Bocian, Ward, & Forness (1998), up to 70% of children with ADHD experience unreciprocated attempts at friendship with peers. Not surprisingly, children with ADHD report feeling lonely and sad about not being liked by their peers, and desperately wanting to fit in (Cipkala-Gaffin, 1998; Gresham et al., 1998).

**ADHD and Literacy Learning**

Although ADHD is not currently believed to constitute a specific learning disability by medical, educational, or legal bodies, growing neuroscientific evidence from brain studies of children and adolescents with ADHD suggests that learning problems are an integral feature of ADHD (Martinussen et al., 2005). In fact, children with ADHD often have significant difficulties with reading and writing tasks. According to Tannock (2007) longitudinal epidemiological surveys in Canada and the US show that children with ADHD, particularly those with the inattentive type, have 8 to 10% lower achievement scores in reading. Tannock (2007) further explains that deficits in executive functions, particularly working memory, along with slower processing speeds in many children with ADHD contribute to these difficulties.

Although children with characteristics of ADHD exhibit a range of reading profiles, past studies suggest that between 25 and 40% of children with ADHD meet the criteria for reading disorders (Carol, Maughan, Goodman, & Meltzer, 2005; Tannock & Brown, 2000). Furthermore,
Carroll et al. (2005) found that the association between ADHD and reading difficulties primarily reflected increased symptoms of inattention. It is interesting to note that students with ADHD who do not have coexisting reading disorders have also been found to exhibit weaknesses in reading performance, particularly in text reading rate, accuracy and reading comprehension (Ghelani, Sidhu, Jain, & Tannock, 2004).

Difficulties in literacy acquisition associated with ADHD can be classified into three areas: weaknesses in text recall and comprehension, weaknesses in written expression, and weaknesses in language functioning.

**Weaknesses in Text Recall and Comprehension**

Due to the inherent difficulties associated with poor executive functioning and sustained focused attention to a task, it is common for individuals with ADHD to have difficulty with recall and comprehension of reading materials (Rief, 1998, 2003). If students with ADHD do not have a coexisting learning disability and even if they have strong decoding and word recognition skills, it is still common for them to have difficulties being strategic readers (Rief, 2005). This is because many students with ADHD fail to self-monitor comprehension. This is often due to executive function weaknesses that make it difficult for students to use their internal language and self-talk efficiently enough to actively engage with the text (Rief, 2005). Students with ADHD also have weaknesses in working memory which result in difficulty recalling information from stories (Tannock, Purvis, & Schachar, 1993). This, of course, negatively affects text comprehension. Specifically, students have challenges summarizing, retelling, and responding to questions related to the reading, and perhaps most importantly, deriving meaning from what is read (Rief, 2005; Tannock et al., 1993). Students with ADHD have also been found to be less
sensitive to story structure, and to have challenges organizing events and identifying causal events in narratives (Lorch, Milich, & Sanchez, 1998).

They have also been found to have difficulty making inferences (McInnes et al., 2003) and figuring out the critical elements and main ideas of what they are reading (Rief, 2005). According to Rief (2005), all of this is compounded by issues of inattention. Rief found that a large percentage of students with ADHD report having difficulty maintaining their train of thought while reading. This high level of distractibility, regardless of whether students have excellent decoding skills and fluency, “results in missing words and important details which consequently impedes comprehension” (Reif, 2005, p. 23).

**Weaknesses in Written Expression**

Children with ADHD often have significant weaknesses in written expression (Mayes, Calhoun, & Crowell, 2000). According to Martinussen et al. (2005), difficulties with written expression are one of the most common and impairing problems at school for children with ADHD. Perhaps this is because the process is so complex. It involves the integration and often simultaneous use of several skills and brain functions. According to Martinussen et al. (2005), students with ADHD have poor orthographic coding, poor fine motor skills, poor spelling, and weaknesses in executive functions and working memory; these are all considered to be core components required for written expression. It is no wonder that many children with ADHD find the process of writing quite daunting. Problems with written expression are often characterized by poor planning and organization, poor written sentence construction, slow and effortful or fast and careless approach to writing, illegible handwriting, poor written spelling, and poor story composition (Berninger, Abbott, Abbott, Graham, & Richards, 2002; Martinussen et al., 2005).
Very often such students are able to verbally express their thoughts articulately, but have great challenges translating these thoughts into written form (Rief, 2005).

**Weaknesses in Language Functioning**

Children with ADHD have challenges in language functioning in three areas: pragmatic language, higher-level comprehension and expression abilities, and basic language abilities (Cantwell & Baker, 1991; Martinussen et al., 2005; Tannock & Schachar, 1996). Challenges in each of these areas can have serious educational implications.

Pragmatic language refers to the ways in which language is used in every day interactions with others (Martinussen et al., 2005). Martinussen et al. (2005) explains that pragmatic language requires the ability to self regulate communication by planning what to say, when to say it, how to convey the message, all while respecting the rules of turn taking in conversations. Children with ADHD have communication problems in these areas due to poor self-regulation of language use (Cantwell & Baker 1991; Tannock & Schachar, 1996). These weaknesses can result in communication breakdowns that negatively affect students’ social interactions while, for example, working in a cooperative group or participating in classroom discussions (Martinussen et al., 2005).

Children with ADHD also often have difficulties with higher level language functions; these higher-level language functions include language comprehension and language expression (Martinussen et al., 2005). As Martinussen et al. (2005) suggests, “these functions are necessary for comprehending and producing lengthy and complex spoken and written language” (p. 49). Higher-level language functions depend on working memory skills. As many children with ADHD have weaknesses in their working memory, it is not surprising many have higher-level language function challenges (Martinussen et al., 2005). These weaknesses can result in children
having a difficult time comprehending cause-effect relationships in stories (Lorch et al., 1998),
comprehending inferences (McInnes et al., 2003), retelling narratives in an organized and
coherent way (Tannock et al., 1993), and elaborating verbally on their ideas (Zentall, 1998).

Finally, many children with ADHD have weaknesses in basic language skills (Tannock &
Brown, 2000; Tirosh & Cohen, 1998). These weaknesses affect the development of age-
appropriate vocabulary, syntax, and grammar. As a result, children with weaknesses in this area
often have difficulties with both oral language and reading tasks (Martinussen et al., 2005).

All students, including those with characteristics of ADHD, require instructional
programs and teaching strategies that directly target their specific weak academic skills,
including their needs in literacy. According to The Report of the Expert Panel on Literacy and
Numeracy Instruction for Students with Special Education Needs, Kindergarten to Grade 6
(Ontario Ministry of Education, 2005), student achievement is highly related to instructional
practices. Therefore, teachers must use research-based knowledge and their experience to guide
their instructional decision-making. Having an understanding of the learning weaknesses
associated with characteristics of ADHD, helps support teachers choose the appropriate
strategies to meet their students’ needs (Martinussen et al., 2005; Tannock, 2007).

Research on ADHD is abundant. Much research has focused on etiology, symptoms,
compliance factors, treatment, diagnostic criteria, neurobiological implications, psychosocial
treatment options, as well as school related factors. In spite of this, classrooms are still a place of
great challenge for many students with ADHD. As DuPaul and Stoner (1994) suggest, “it is quite
humbling to realize that although our understanding of ADHD has greatly advanced over the last
everal decades, children with this disorder continue to encounter significant difficulties in
succeeding in our schools” (p. 236). This is despite the fact that research suggests students with
characteristics of ADHD can be socially and academically successful within the classroom if they receive the appropriate instruction and support (Barkley, 2005; Harjacher et al., 2006). In fact, many students who have ADHD or characteristics of ADHD can be successful within the classroom if they have instructional environments that foster their strengths and match their needs. (Martinussen et al., 2005). The following section outlines the different ways students who have been identified as having special education needs are supported within the education system.

Supporting Students With Special Education Needs in Publicly Funded Schools in Ontario

Education in Canada, including special education, is under the jurisdiction of each of the 10 provinces and three territories (Dworet & Bennett, 2002). As a result, policy and practice vary from province to province, resulting in both similarities and differences in the way students receive special education support across Canada. Similarities include, for example, the use of individual education plans (IEPs) which are written plans of action for students whose needs require adjustment of curriculum activities and assessments (Bennett, Dworet, & Weber, 2008). A second similarity is an emphasis on inclusion. Inclusion in education is an approach to educating students with special education needs or exceptionalities. Under the inclusion model, students with special needs spend most or all of their time in general education classrooms as opposed to separate special education classes. The differences in special education practice from province to province are related to definitions of exceptionalities and special education teacher training requirements. As well, the financing, curriculum, and delivery of special education programs and services come under control of the provincial/territorial legislative assembly and may differ from jurisdiction to jurisdiction (Winzer, 1996).
Special education in Canada formally began in the mid-1800s, when specialized schools for students with visual impairments were started (Weber & Bennett, 1999). Over the next 150 years, an education system evolved to its current iteration as the norm in Canada – with the delivery of special education services being an integral part of the educational landscape. The province of Ontario, where this study took place, accounts for approximately one third of the total population of Canada; it is the largest province in Canada. Over the past 30 years, there has been much change in the delivery of special education in this province. According to Bennett et al. (2008), 1980 was a landmark year in the history of education in this province; the Education Amendment Act (Bill 82), which requires districts of education to accept students with special needs into their schools, was signed into law. Bill 82 was the culmination of 30 years of Royal Commissions, education reform, public pressure, and political will. This legislation, which had a significant impact on special education in the province, was part of a worldwide movement towards providing all children with the opportunity to have a publicly-funded education, regardless of abilities or disabilities (Bennett et al., 2008). The passage of Bill 82 meant that, for the first time, school districts in Ontario were required to provide special education programs and services to students with special needs. Before the enactment of Bill 82, school districts could offer such programs and services, but they were under no obligation to do so. This resulted in a significant variation in the provision of special education programs and services among districts across the province. Children with disabilities were, therefore, sometimes excluded from Ontario schools entirely. Some of these children stayed at home without attending school, while others were accommodated in private school settings, often run by parents or volunteers. Today, publicly funded school districts throughout Canada are held accountable for the academic achievement of all students, including those with special needs (Bennet et al., 2008).
Provincial legislation requires that publicly funded school districts implement procedures for the early and ongoing identification of the learning abilities and needs of students (Jordan et al., 2009). When students have special needs that require support beyond those ordinarily received in the school setting, they are provided with special education programs and services that are appropriate for their needs. Typically, the classroom teacher begins the process of identification. Concerns are usually first discussed at an in-school-team meeting. Although the role and the style of an in-school-team vary from school to school and district to district, its general role is to help generate solutions for students having difficulties (Bennet et al., 2008). The team usually consist of a classroom teacher, a special education teacher, the principal or designate, and any other support personnel who may be appropriate (e.g., speech pathologist, social worker). It is during this meeting that members suggest strategies for the teacher to use in the classroom.

If the strategies suggested by this team are not effective, the team will then refer the student to the Identification, Placement, and Review Committee (IPRC) for formal identification as exceptional. This is the process by which a student becomes a beneficiary of special education programs and services. With evidence from various educational testing, the IPRC process considers whether children meet the criteria for special education services, helps to identify a student's educational needs, and recommends the appropriate placement for instruction such as the general education classroom or special education class. (Bennet et al., 2008). This IPRC committee, consisting of special education consultants, principals, resource teachers, and related professionals (e.g., psychologists, social workers) reviews all assessment data, and determines whether students should be declared exceptional (Bennet et al., 2008). According to the Ontario Ministry of Education (2001), “Special Education: A Guide for Educators,” exceptional students
are usually designated as belonging in one of five legislatively defined categories of disability or exceptionality:

1. behavioural;
2. communication (autism, deaf and hard of hearing, language impairment speech impairment, learning disability);
3. intellectual (gifted, mild intellectual disability, developmental disability);
4. physical (physical disability, blind and low vision);
5. multiple (a combination of any of the previous four categories).

These categories are intended to be broad descriptions of challenges that might be experienced by students.

There is also an alternative to being formally identified by the IPRC process. Schools can develop an Individual Education Plan (IEP) for their students, through which special education programs and services can be delivered. The IEP usually specifies accommodations and curriculum modifications for a particular student. Each of the 78 school districts in Ontario sets its own process for delivering special education services. As a result, school districts vary widely in the numbers of students formally identified through an IPRC process or served through an IEP alone (Demeris, Childs, & Jordan, 2007). According to Jordan et al. (2009), although all provinces and territories in Canada now have some form of provision for inclusion of students with special needs, there is considerable diversity from one province to another, from school system to school system, and indeed from school to school with respect to how special education programs and services are delivered.
Inclusion

In Ontario, the education system has adopted an *equity and inclusive strategy*. In the Ontario Ministry of Education (2009) document entitled “Realizing the Promise of Diversity: Ontario’s Equity and Diversity Education Strategy,” inclusive education is defined as:

Education that is based on the principles of acceptance and inclusion of all students. Students see themselves reflected in their curriculum, their physical surroundings, and the broader environment, in which diversity is honored and all individuals are respected. (p. 6)

Currently, inclusive education in Canada is consistent with the Canadian Charter of Rights and Freedoms which guarantees, among other things, the rights of all individuals with exceptionalities (Mitchell, 2005). Ontario policy mandates that integration should be the first choice of classroom placement and that any segregated placement must be in accordance with the parents’ wishes. The implementation of inclusion means that students who were previously in small classes with specialized support are now in full size general education classrooms with teachers who may not have had specialized training in areas of special education.

ADHD Within the System of Special Education and Inclusion

Although ADHD is acknowledged as a learning challenge in most provincial school systems in Canada, this acknowledgment often comes without any form of guaranteed support for students with ADHD. According to the Center for ADD/ADHD Advocacy Canada (CADDAC), Manitoba and Alberta are the only provinces to specifically identify ADHD in a category of exceptionality (CADDAC, n.d.). In Ontario, as of the writing of this dissertation, the Ministry of Education has committed to including ADHD into a category of exceptionality (CADDAC, 2012), however, the process has not been finalized. In other provinces, students with ADHD may be identified in another category, such as behavioural or learning disability (LD),
but only if they meet the specific criteria of that category. Until recently, Ontario did not recognize ADHD as a learning disability and unless behavioural difficulties are extreme, ADHD does not qualify a student in the behavioral category either (CADDAC, n.d.). This meant that learning difficulties intrinsic to ADHD, such as poor regulation of attention and frequent impairments in executive functioning, processing speed, and working memory, until very recently, did not qualify students for a designation as a learner who is guaranteed special learning support.

As Jordan et al. (2009) suggest, special education is formally delivered only to students who have been designated as belonging in one of the disability categories. Students are eligible to be considered in a disability category only after they have passed the pathology criteria for that category. Jordan et al. (2009) argue, declaring students “eligible” for services takes precedence over investing time in finding out whether students can be accommodated within the available resources of the regular classroom. As a result, individual schools are often left to make decisions about the kinds of services and support a child with ADHD will receive (DuPaul & Stoner, 1994). This results in considerable variability in programming for students with ADHD (Barkley, 2005; DuPaul & Stoner, 1994).

There is much research to suggest that most students with ADHD can be successfully educated in the regular education setting if teachers are given opportunities to learn about and understand the needs of students with ADHD and can make the necessary classroom environmental and instructional modifications for them (Barkley, 1998, 2005; Carbone, 2001; Harjacher et al., 2006; Forness & Kavale, 2002; Jordan et al., 2009; Martinussen et al., 2006; Tannock, 2007). As Jordan et al. (2009) suggest, effective inclusive teaching depends on preparing teachers at both the preservice level of teacher education and the in-service level of
professional development to adapt instruction for the needs of all children. It also requires that teachers are supported so that they can meet their students’ diverse needs. It involves teacher understanding of, and a positive attitude towards, the different needs and challenges of students with ADHD. Though the shift toward inclusion has provided the impetus for teachers to learn to adapt their instruction to meet the needs of a wide range of students in the general education classroom, the question remains: to what extent are teachers prepared to meet the full range of student needs, specifically those with ADHD and how will teacher education in ADHD contribute to more supportive teaching practices?

**Teacher Education: Preservice and In-Service**

In Canada, becoming a teacher is an ongoing process which begins with an initial teacher education program and usually continues with professional learning opportunities provided by the school district and universities. Typically, in-service education occurs while the teacher is employed as a teacher. The following section outlines how individuals are educated to become teachers in Ontario as well as the kinds of professional development activities teachers are likely to participate in while working as classroom teachers.

**Preservice**

Preservice refers to the education and preparation student teachers receive before they are employed. All teachers in Canada must be certified, through completion of a preservice program, under a provincial/territorial governing body. It is either the Provincial Ministry of Education or the College of Teachers (British Columbia or Ontario), which ensures that appropriate education has taken place.
In Ontario, educators can be certified through a concurrent or consecutive program of preservice professional education. A concurrent program of professional education is undertaken at the same time as a post secondary degree in a discipline other than education. In other words, student teachers receive their undergraduate degree at the same time they are receiving their teacher education degree. The length of this program is usually 5 years. A consecutive program is completed after a bachelor degree. It is typically a 1-year program leading to a degree and certification in teaching. According to the Ontario Ministry of Education (n.d.) approximately three quarters of new teachers complete a 1-year post-baccalaureate degree. There are a few 2-year programs, which lead to both teacher certification as well as a Master’s degree in education.

Preservice education programs in Canada are required to include 1 year of full-time postsecondary study focused entirely on education – a minimum of 30 credits or the equivalent. The program must include practice teaching and courses in education foundations and teaching methods (Dworet & Bennett, 2002). Typically, 40% of the year is focused on teaching methods. In particular, this is centered on how to teach students in particular grades or subjects. Twenty percent of the year is focused on education foundations. This is centered on the history, philosophy, and psychology of education. Twenty percent is focused in any other area of education and a minimum of 40 days of supervised practice. In every jurisdiction in Canada, teachers receive a regular teaching license before receiving any special education certification (Dworet & Bennett, 2002).

In Canada there is a growing awareness of the need for specific training in the area of exceptionalities in preservice education (Jordan et al., 2009). This awareness is fueled in part by the increasingly inclusive nature of Canadian classrooms. Policymakers in provinces across Canada, including those in Ontario, have adopted a philosophy of inclusion, encouraging schools
to include students with disabilities in regular classrooms. As a result, teachers are being called upon to respond to an ever-growing range of learning needs, including those of students with special education needs.

Educational research suggests that effective inclusive teaching depends on preparing teachers to be able to differentiate for the needs of their students (Jordan et al., 2009). Although some universities offer special education courses at the preservice level, the majority of universities do not make this a requirement for certification. Furthermore, because the Ontario Ministry of Education, like most educational jurisdictions, does not currently, officially list ADHD in a distinct category of exceptionality, even when preservice programs do have a Special Education course as a requirement, the topic of ADHD is not of primary concern (Personal communications, Ontario Faculties of Education, December 2011). Therefore, the majority of teachers have little knowledge of special education in general, and even less on the topic of ADHD.

**In-Service Professional Learning**

In many ways, teachers’ professional learning just begins in their preservice program. In-service professional learning refers to professional development teachers receive while they are employed in education. Continuing to build professional knowledge is important because a teacher’s knowledge often impacts on student learning. As Timperley (2007) suggests,

> Many factors influence student learning, but it is increasingly clear that what teachers know and are able to do is one of the most important of all. Teachers are the ones who work directly with students, who translate and shape curricular goals and theoretical ideas into classroom practice and who shape the environment for learning. Teachers’ knowledge, skills, attitudes, and dispositions have direct and serious implications for the success of the students they teach. From this standpoint, professional learning represents an an enormous investment in the development of human capital, directed at ensuring that the teaching and learning in our schools is up to date and effective. (p. vii)
According to the Ontario Ministry of Education (n.d.), there has been a strong tradition of ongoing professional development in a variety of forms in Ontario, with as many as 85% of teachers engaged in some kind of professional improvement through formal courses or workshops over the course of their careers. There are four main avenues for teachers to continue to develop their skills and knowledge: induction programs, Additional Qualification Courses regulated by the Ontario College of Teachers, university degrees, and informal opportunities for professional development.

**Induction**

The premise behind induction holds that preservice teacher education is rarely sufficient to provide the skills and knowledge required for successful teaching, and that a good portion of these can only be acquired once teachers are on the job (Feiman-Nemser, 2001; Ganser, 2002; Gold, 1999; Ingersoll & Strong, 2011). In Ontario, all school districts are required to offer an induction program to support the growth and professional development of new teachers. According to Wong (2002), induction programs differ from school district to school district, but they share certain characteristics. For example, all successful induction programs help new teachers address effective classroom management procedures, routines, and instructional practices. They help develop teachers' sensitivity to and understanding of the community.

Successful programs also promote unity and teamwork among the entire school community (Wong, 2002).

There is a province-wide induction program in Ontario known as The New Teacher Induction Program (NTIP). It provides a full year of professional support for teachers who have been hired on permanent contracts (Kane, 2010). NTIP's goal is to accelerate a beginning
teachers’ development through a systematic induction program which include mentoring, and professional development.

Dr. Kane from the University of Ottawa conducted an evaluation of the impact of the NTIP. One of the areas of focus in this report was the impact of the induction program on new teachers’ experiences with students with special needs and other diverse learners. In her report published in 2010, Kane found that teachers who reported a positive impact on their understanding and skills related to instruction to meet the special needs of students, attributed this primarily to working collaboratively with their mentors and other colleagues within their own schools. Kane (2010) noted that most teachers and mentors reported a lack of opportunity for engaging in structured collaborative professional learning. She suggested this was a dominant barrier for many new teachers and their mentors. Interestingly, Kane also notes that many new teachers are reluctant to leave the classroom to meet for shared planning and professional dialogue because, “they are loath to leave their classrooms as they often perceive the day absent from the classroom could potentially threaten the fragile alliance they have established with their students” (p. 6).

**Additional qualification courses**

Teachers who hold an Ontario teaching certificate have the option of completing in-service professional development in the form of Additional Qualification (AQ) courses. Teachers are responsible for paying the cost of these courses themselves, however completion of a number of courses usually leads to an increase in salary. For example, according to the Ontario Ministry of Education (n.d.) for a teacher with 11 years of experience, the maximum recognized by a typical salary grid, he or she would receive 26% more salary if he or she has completed the maximum range of AQ type courses compared to another teacher with the same experience who
has completed none at all. These AQ courses are regulated and accredited by the Ontario College of Teachers which is a self-regulating body for the teacher profession in Ontario. AQ courses allow teachers to expand their knowledge and skills in the specific divisions and subjects that they are already qualified to teach or to qualify a teacher to teach in other divisions or subject areas.

When teachers are interested in professional learning in the area of Special Education, they have the option of taking Special Education AQ courses; there are three courses offered as Special Education, Part I, Part II, and Specialist. Each part builds upon the previous one. According to the AQ course guideline, each of the three courses is open to all elementary or secondary teachers who wish to deepen their knowledge regarding students identified as exceptional and students with special needs who are included in the regular classroom. Moreover, the guide states that the underlying purpose of each of the courses is to, “develop skills and knowledge of teachers in design, delivery, programming, and assessment of special education.” According to the Ontario College of Teachers (2011), at the time of the study, Special Education AQs have the highest enrollment of the 360 AQs available. Each year, 8,000 Ontario certified teachers take special education AQs.

**Informal opportunities**

In addition to their induction program, beginning teachers can choose courses or other development opportunities to meet their own needs and the needs of their school. Teachers in Ontario often participate in professional development activities in the form of seminars and workshops, academic programs, collaboration with outside organizations and other teachers, and extracurricular activities. These professional development opportunities are offered, for example, by the school, district, Ontario Ministry of Education, or through the various teacher federations.
Teacher Learning and Effective Teacher Professional Development

To help practicing teachers improve and become increasingly expert over the course of their careers, it's important to recognize that teaching is a lifelong journey of learning rather than a final destination of “knowing” how to teach (Ball & Cohen, 1999; Borko, 2004). As Fullan (1993) suggests, teachers must be career long learners in order to be change agents and in order to stimulate students to be continuous learners themselves. Lifelong learning is essential because in ever-changing and complex societies, outdated mental maps “cease to fit the territory” (Pascale, 1990, p. 13). As a result, teachers need continuous opportunities to become successfully more sophisticated in their ideas and skills over time. They do this by examining their own and or attending professional development sessions (Schneider & Plasman, 2011).

Over the past few decades, numerous studies have emerged on in-service professional development and teacher learning (e.g., Fullan, 2001a, 2001b; Garet, Porter, Desimone, Birman, & Yoon, 2001). Professional development is considered one of the most effective ways to improve the teaching and learning process. The ultimate goal is to enhance learning for all students; quality teaching is the ultimate goal of PD (Darling-Hammond, 1997). In defining professional development, Guskey (2000) equated it with “those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students” (p. 16). Professional development affects teacher growth, variations in instructional techniques, and improvements in student learning (Joyce & Showers, 1995).

To have the greatest impact, professional development needs to be designed and implemented for the needs of particular teachers in particular settings. Furthermore, offering professional development is not sufficient; it needs to be evaluated to determine if it has met the
needs of the teachers (Guskey, 1995). Perhaps in response to this recognition there is beginning to be a paradigm shift away from a “one-size-fits-all” approach to teacher professional development. As Guskey (2003) suggests, “differences in communities of school administrators, teachers, and students uniquely affect professional development processes and can strongly influence the characteristics that contribute to professional development effectiveness” (p. 47). Although it is clear that professional development should be geared towards specific teacher populations and their unique contexts, several characteristics of high-quality teacher professional development can be derived from research on a wide variety of approaches. In the following section, some of the characteristics of high-quality professional development are reviewed.

**Features of High-Quality Professional Development**

Over 20 years ago, Carpenter, Fennema, Peterson, Chiang, and Loef (1989) investigated the particular features of professional development associated with improvements in student learning. By conducting a randomized study, they concluded that teachers who participated in an 80-hour program of PD had students who outperformed the students of teachers who participated in a brief, one time 4-hour professional development workshop. Clearly, longer-term professional development sessions were shown to be more effective. Findings from this study resulted in a proliferation of research on particular features of professional development.

Since then, a professional consensus has begun to emerge about particular characteristics of “high-quality” professional development and features associated with improvements in student learning (Desimone et al., 2002; Opfer & Pedder, 2011). There has been a shift from a product-oriented working mode to a social constructivist, process-oriented mode of working with teachers (Crandall, 2000). Effective professional development provides teachers with explicit instruction on research-based practices by expert teachers, frequent opportunities for practice
with continuous feedback and coaching, and opportunities to discuss how implementation is going. Research literature has also identified multiple characteristics of programs that appear more likely to be effective in supporting student learning. In the following section, the most consistently cited factors are outlined.

**Inquiry-based, constructivist approaches**

Research suggests that professional development models that focus on teacher knowledge and inquiry are superior to those that deliver expert knowledge and expect teachers to adopt specific practices (Lytle, Belzer, & Reumann, 1992). Viewed through a social constructivist lens, teachers, as learners, are not empty vessels to be filled with knowledge imparted by others. Rather, learning is a process through which learners construct their knowledge by modifying or revising existing ideas (Bransford et al., 1999; Bransford, Brown, & Cocking, 1999; Bruner, 1966; Cobb, 1994; Driver, Asoko, Leach, Mortimer, & Scott, 1994; Vygotsky, 1986). The premise is that learning is a personal and active process through which learners interact with information and experiences and filters them through what they already know (Bruner, 1966). As is the case with students in the classroom, teachers’ learning comes from thinking through and often struggling with problems and situations to arrive at new understandings, which are built on learners current views. The learner interacts in a very active way with ideas and experiences, rather than just passively taking in facts or memorizing data (Bransford et al., 1999).

The research on learning suggests that learners need to develop conceptual understanding as well as procedural information and learn to apply and transfer knowledge of the content flexibly (Bransford et al., 1999). When teachers only learn the procedures or the “what” and “how” and not the “why,” they may lack the understanding needed to generalize their knowledge to situations in their unique classrooms. High quality professional development promotes
continuous inquiry and reflection through this type of active, constructivist learning. As Birman, Desimone, Garet, and Porter (2000) suggest “active learning encourages teachers to become engaged in meaningful discussion, planning, and practice as part of the professional development activity” (pp. 30–31). Furthermore, professional development should respond to teachers self-identified needs and interests in order to support individual and organizational improvements. Professional development is more meaningful to teachers when they exercise ownership of its content and process (King & Newmann, 2000).

**Extended and on-going**

Research suggests that teachers’ professional learning needs to involve a significant number of contact hours over a long period of time (Cohen & Hill, 1998; Guskey, 2000; Weiss, Montgomery, Ridgway, & Bond, 1998; Shields, Marsh, & Adelman, 1998; Thompson & Goe, 2009). An extended period of time gives teachers the opportunity to develop, absorb, discuss, and practice applying new knowledge and skills (Garet et al., 2001). Extended professional development experiences allow for more substantial engagement with subject matter, more opportunities for active learning, and the development of authentic connections to teachers’ daily work (Birman et al., 2000). Furthermore, teachers need time to understand new concepts, learn new skills, and develop new attitudes. (Cambone, 1995; Corcoran, 1995; Troen & Bolles, 1994; Watts & Castle, 1993).

Once exposed to new ideas, teachers also need sustained opportunities to consciously develop, practice, reflect upon, and refine their new skill set so that it works within the context of their own classrooms (Thompson & Goe, 2009). Showers, Joyce, and Bennett (1987) estimated that teachers need 25 opportunities to practice a strategy to ensure transfer of that strategy into their practice. Ultimately, teachers need opportunities to reflect on their practice both to
understand and improve it (Myers & Rust, 2003; Schön, 1983; Wells, 1994). Schön (1983) writes about the importance of teachers having opportunities to reflect on their practice both during (reflection-in-action) and after (reflection-on-action) they have enacted strategies within the classroom. He argued that by making what is implicit more explicit, teachers are more likely to engage in a process of continuous learning. Although research suggests that sufficient time for teachers to engage in high-quality professional learning is crucially important, is also clear that professional development activities must also be well organized, carefully structured, purposely directed, and focused on content or pedagogy or both in order to be effective (Birman et al., 2000; Garet et al., 2001; Guskey, 1999).

**Embedded in teachers’ work with opportunities for collaboration**

According to Fullan and Hargreaves (1991) there is a ceiling effect to how much teachers can learn if they work in isolation. Fullan (2001b) says collegiality best supports true improvement. Teaching should be collective and reflective, not an individual activity. Successful schools value consistent standards, and successful teachers trust and appreciate others and ask for and share expertise. Additionally, teachers need opportunities to engage in conversations with other teachers, to learn about what works under what circumstances, to examine examples of practice, reflect on their own practice and their students’ learning, and determine whether new practices are making a difference (Garet et al., 2001; Loucks-Horsley, Love, Stiles, Mundry, & Hewson, 2003; Penuel, Fishman, Yamaguchi, & Gallagher, 2007). This is at the heart of what collaborative professional development affords. As Ball and Cohen (1999) write,

The opportunity to engage in such conversation can provide a means for teachers to represent and clarify their understandings, using their own and others' experiences to develop ideas, learn about practices, and gain a more solid sense of themselves as contributing members of our profession, as participants in the
improvement of teaching and learning and their profession, and is intellectuals. (p. 17)

There are several studies supporting the positive impact of participation in learning communities, on teachers’ personal and professional growth (Cochran & Lytle, 1999; Lieberman, 2000; Thompson & Goe, 2009). In their review of the research on teachers’ professional development practices, Opefer and Pedder (2011) found a comprehensive body of literature focused on collaboration resulting from the development of communities of practice. This research focuses on how and why collaboration is important to teacher learning and change in practice (Cochran-Smith & Lytle, 1999; Goldenberg & Gallimore, 1991; McLaughlin & Talbert, 1993; Richardson & Anders, 1994). Although Anderson and Herr (2011) write that professional learning communities can be variously defined, authentic inquiry is central to their work (Cochran Smith & Lytle, 2009).

Cordingley, Bell, Evans, and Firth (2005) and Cordingley, Bell, Thomason, Evans, and Firth (2005) conducted two reviews of research that focused on the impact of a collaborative professional development on teacher practice (Cordingley, Bell, Thomason et al., 2005) and student achievement (Cordingley, Bell, Evans et al., 2005). The researchers concluded that collaborative professional development resulted in positive changes in teacher practice, beliefs, attitudes, and student achievement. As well, further research suggests that when teachers collaborate, they are more likely to take risks, learn from mistakes, and share successful strategies (Carpenter, Fennema, Frankie, & Levi, 2001).

Interestingly, Opefer and Pedder (2011) found in their meta-analysis, that collaboration has been shown to be a double-edged sword. For example, Cochran-Smith and Lytle’s (1990) research with teachers suggests that too much collaboration can, “emphasize conformity to group
norms at the expense of inventiveness and initiative” (p. 509). The intensity of the collaboration must be an important consideration. Too much collaboration can result in stifled learning, too little collaboration can result in teachers feeling isolated and their growth inhibited, and “just enough” collaboration can result in teachers receiving the right amount of stimulation and support from their colleagues in order to make change. Opefer and Pedder (2011) suggest that just how much collaboration is necessary depends on individual factors of the teachers and the schools involved.

Furthermore, professional development has been shown to be more effective in promoting positive teacher change if teachers from the same school, department, or grade level participate collectively (Birman et al., 2000; Desimone et al., 2002; Wayne, Yoon, Zhu, Cronen, & Garet, 2008). Research suggests that effective professional development needs to be related to the local circumstances in which teachers operate, and preferably largely school-based and incorporated into the day-to-day work of teachers (American National Partnership for Excellence and Accountability in Teaching, n.d.). Teacher learning that occurs at the workplace in which their learning is situated and is closely aligned with teachers’ work in classrooms and schools has the greatest chance of being effective (Garet et al., 2001; Huffmann, Thomas, & Lawrenz, 2003; Sparks & Loucks-Horsley, 1989). This has also been referred to as job embedded professional development (JEPD) (Croft, Coggshall, Dolan, Powers, & Killion, 2010).

According to several studies that have investigated the effects of building a professional learning culture or learning community with many of the above characteristics, some of the most notable outcomes were that participants developed a feeling of empowerment - they felt more confident in dealing with new and familiar strategies, they felt that their individual efforts were supported by the group, and that they were more effective teachers (Peters, Petrunka, Angus,
Belanger, & Boyce, 2004; Zimmerman & Rappaport, 1998). Studies have also found that learning communities redress teacher isolation, create shared teacher responsibility for all students, and provide teachers with an opportunity to be exposed to instructional strategies are knowledge that they did not have access to previously (Croft et al., 2010).

Currently, there is growing attention to professional development that engages teachers in building a professional learning culture and examining practice with both experts and colleagues (Loughran, Mulhall, & Berry, 2004; Shulman & Shulman, 2004; Smith, 2001; Stigler & Hiebert, 1999; Weiss & Pasley, 2009). King and Newmann (2000) write, “teacher learning is most likely when teachers collaborate with professional peers, both within and outside of their schools, and when they gain further expertise through access to external researchers and program developers” (p. 576).

**Teacher Knowledge and Professional Development on the Topic of ADHD**

**Teacher Knowledge About ADHD and its Relationship to Teacher Self-Efficacy**

As a result of the trend toward more inclusive classrooms, and because the majority of students with ADHD do not presently fit into a designated disability category, the general classroom teachers’ knowledge about ADHD is vital to the educational success of students with ADHD (Barkley, 2005; DuPaul et al., 2002; DuPaul & Stoner, 1994; Pfiffner & Barkley, 1998). As prior research has suggested, many students with ADHD require a different level of guidance and support from their classroom teacher than those students without ADHD (Barkley, 1998, 2005; DuPaul & Stoner, 1994). In order to help children with ADHD succeed in school, teachers must be familiar with different behavioral strategies and interventions as well as the appropriate methods of academic instruction (Gardill, DuPaul, & Kyle, 1996). Brophy and McCaslin (1992) also highlighted a teacher's positive attitude towards students with ADHD, and confidence in his
or her ability to affect student improvement as essential qualities for successfully supporting students with ADHD. Research found that the impact of teachers’ expectations, attitudes, and perceptions can have a major impact on the academic success of students with ADHD (Hudson, 1997).

Self-efficacy has been defined as “teachers’ evaluation of their abilities to bring about positive student change” (Gibson & Dembo, 1984, p. 570). Teachers own self-efficacy and confidence in working with students with ADHD has an impact on student outcomes. Generally, teachers with high levels of self-efficacy are considered to have higher confidence (Wheatley, 2007), particularly in their teaching abilities (Guskey & Passaro, 1994). More specifically, teacher self-efficacy has been found to be related to positive student outcomes (Jordan et al., 2009) including achievement and motivation (Gibson & Dembo, 1984). According to Eggen and Kauchak (2006) and Poulou (2007), teachers’ confidence to teach is one of the key characteristics that is predictive of teaching ability; those who believe they can positively impact student achievement are more likely to be effective in meeting students’ needs.

Research suggests that a lack of confidence or low self-efficacy is likely to result in reduced teacher willingness to implement accommodations for students with special needs (Reid, Vasa, Maag, & Wright, 1994; Schumm & Vaughn, 1994). In contrast, research has shown that teachers with a greater sense of efficacy are more likely to engage in effective and appropriate teaching strategies with students with learning and behavioral disorders (Brownell & Pajares, 1996; Eggen & Kauchak, 2006, Poulou, 2007). Jordan et al. (2009) argue that teaching efficacy predicts teaching practices, which in turn predicts student outcomes. Jordan et al. (2009) suggest that the “propensity and skill” to promote learning at each student’s level of engagement is essential for effective inclusive practices (p. 652).
In a study of teachers, researchers found that overall knowledge of ADHD was positively related to teachers’ confidence in their ability to effectively teach a child with ADHD (Sciutto et al., 2000). In another study, teachers with prior experience and training about ADHD were found to report higher confidence in their ability to work with students and in their ability to use appropriate accommodations for them (Reid et al., 1994). Furthermore, research data suggests that when teachers have a better understanding about ADHD, they are more willing to make instructional changes for their students with ADHD (Ohan, Cormier, Hepp, Visser, & Strain, 2008; Reid et al., 1994; Vereb & DiPerna, 2004; Zentall & Javorsky, 2007). Essentially, researchers suggest if teachers have a better understanding of the needs of children with ADHD including knowledge of effective instructional and behavioral management approaches for them, they are more likely to have a higher level of self-efficacy and are more likely to impact student outcomes positively.

Teacher Knowledge and Lack of Professional Development on the Topic of ADHD

Despite the prevalence of ADHD in the student population, teachers report having limited knowledge about ADHD and its effects on school functioning (Kos et al., 2006; Martinussen & Tannock, 2006). Research suggests that the majority of classroom teachers have a limited understanding of what constitutes appropriate interventions and modifications for students with ADHD (Barkley, 2005; DuPaul & Stoner, 1994; Fowler, 1992; Parker, 1992; Pfiffner & Barkley, 1990). Teachers generally also have a poor grasp of the nature, course, causes, and outcomes of ADHD. Perhaps more importantly, they hold substantial misperceptions about appropriate educational interventions for this population (Pfiffner & Barkley, 1998). In fact, studies have shown that many teachers hold incorrect beliefs or negative attitudes toward students with
ADHD (e.g., Barbaresi & Olsen, 1998; Jerome, Washington, Laine, & Segal, 1994; Sciutto et al., 2000).

Though the challenging affects of ADHD on students’ experiences in school and teachers’ lack of knowledge about ADHD have been well documented, teachers receive little training in either preservice or while working in-service about methods for improving the classroom experience and performance of students with ADHD (Barbaresi & Olson, 1998; Bekle, 2004; Bussing et al., 2002; DuPaul & Stoner, 1994; Jerome et al., 1994; Ozdemir, 2006; Martinussen et al., 2011; Sherman, Rasmussen, & Baydala, 2008; Zentall & Javorsky, 2007). Teachers report feeling ill-equipped to provide the kind of support necessary to improve academic and social/emotional outcomes for children with ADHD (Bekle, 2004; Bussing et al., 2002; Kos et al., 2006; Rush & Harrison, 2008; Sherman et al., 2008; Walter, Gouse, & Lim, 2006; Westling, 2010; Zentall & Javorsky, 2007). This is despite the fact that researchers suggest “instruction in how to meet the educational and behavioural needs of children with ADHD must occur at both levels of training for both general educators and special educational personnel” (DuPaul & Stoner, 1994, p. 225). It is especially important, because enabling learning for all students requires knowledge about how students learn differently and the kinds of teaching strategies that are most effective for different kinds of learning (Barkley, 2005; DuPaul & Stoner, 1994; Darling-Hammond et al., 2005; Jordan et al., 2009). It is also important to note that research suggests that “eventually, well-meaning but unskilled teachers give up on students who they may have not yet learned to teach” (Darling-Hammond et al., 2005, p. 5). Not surprisingly, then, research has linked lack of teacher knowledge on the topic of ADHD with more negative student outcomes (Brophy & McCaslin, 1992). Inadequate teacher training appears to contribute significantly to this problem.
Teachers cite lack of professional learning as one of the major barriers to providing effective instruction for students with ADHD. (Bussing et al., 2002; Tannock, 2007). Jerome et al. (1994) surveyed a sample of 439 American and 850 Canadian elementary teachers about their knowledge and attitudes regarding ADHD. Nearly all of the teachers in both American (90%) and Canadian (97%) samples expressed a strong interest in obtaining additional training on the topic of ADHD. Significantly, both the American (89%) and Canadian (99%) teachers reported a lack of opportunity to learn about ADHD. Studies completed by Jerome et al. (1999) and Bekle (2004) showed similar results.

A number of studies report that teachers have high interest in learning about supporting students with characteristics of ADHD (Barbaresi & Olson, 1998; Bekle, 2004; Bussing et al., 2002; Jerome et al., 1999; Kos, Richdale, & Jackson, 2004). Research conducted in Canada (Sherman et al., 2008), United States (Bekle, 2004; Jerome et al., 1994, 1999; Ozdemir, 2006), Australia (Carpenter & Austin, 2008; Hudson, 1997; Kos et al., 2006), and Iran (Ghanizadeh, Bahredar, & Moeini, 2006) has shown that while most elementary teachers recognize the value of increased knowledge and understanding about ADHD, they report a lack of opportunity to learn about ADHD and a lack of competence to teach students with ADHD.

Prior Research on Professional Development for Teachers of Students With ADHD

Several studies have addressed the potential of in-service education to provide teachers with the necessary knowledge and skills to help manage challenging classroom behaviours and improve outcomes for their students (e.g., Barbaresi & Olson, 1998; Jones & Chronis-Tuscano, 2008; Rossbach & Probst, 2005; Shapiro, Miller, Sawka, Gardill, & Handler, 1999; Zentall & Javorsky, 2007). The majority of these investigations studied in-service professional development that was brief and included didactic training about ADHD. In each of these studies,
the training models were evaluated by consumer satisfaction surveys and knowledge tests immediately following training. In general, the teachers in the studies reported the trainings as favorable. According to Guskey (2000), however, consumer satisfaction measures do not measure the effectiveness of in-service education. Instead, they assess other factors such as the presenter’s style, the participants’ needs to provide socially desirable responses, and physical comfort in the facility. All of the published sources mentioned earlier in this paragraph, except for Guskey (2000), reported that teachers’ knowledge levels increased significantly. However, research suggests that an increase in knowledge is not sufficient to make change in practice (Guskey, 2000).

Only one recently published study was found examining the effects of professional development over a period of time, specifically designed to educate teachers about ADHD (Zentall & Javorsky, 2007). This particular study was quantitative in nature and compared the effectiveness of three in-service programs on teacher knowledge and functional assessment interventions. This study directly addressed the question of outcomes with a follow-up assessment 3 months after the initial training implementations. Researchers found improved teacher attitudes and confidence in teaching students with ADHD, and improved self-reported ability to provide accommodations (Zentall & Javorsky, 2007). While this American study examined the effects of teacher education on ADHD over time, no Canadian study has looked specifically at the experiences of teachers while in the midst of participation in professional development. As well, no other Canadian study has looked at the influence of sustained and collaborative professional learning on the topic of ADHD or at teachers’ experiences in general, and more specifically on teacher practice and self-efficacy. While several previous studies show that professional development programs can lead to improvement in teacher knowledge about
ADHD, they provide limited insight into teachers’ responses to the program or subsequent changes, over time, in their practice with students with characteristics of ADHD. Because so little is known about teachers’ experiences while participating in a learning community on this topic, this study was designed to investigate teachers’ perspectives, and practices in this type of PD. Darling-Hammond et al. (2005) suggest that teachers need to learn and construct curriculum that supports equitable achievement. By understanding the influence of training on the topic of supporting students with ADHD on teachers’ experiences and practices in the classroom, we may better understand the value of such training toward supporting more equitable achievement for students with characteristics of ADHD.

As we have seen, the research literature illustrates the need for more opportunities for professional development in the area of supporting students with characteristics of ADHD in the general education classroom. It also reflects the scarcity of available training for teachers in this area.

Chapter Summary

The purpose of this chapter was to present the literature that informed and influenced my research. In order to situate the core ideas of this dissertation, I reviewed the literature on ADHD in the context of schooling, special education, teacher professional development, and literacy as it relates to challenges faced by those with characteristics of ADHD. Throughout, it became clear how important it is for general education classroom educators to be prepared to teach students with diverse learning needs such as those with characteristics of ADHD. In order to help ensure that teachers are prepared, they need professional learning that is sustained and intensive, rather than brief and sporadic, and that provides opportunities to develop, absorb, discuss, and practice new knowledge.
In the next chapter, I outline the methods used in this study. I present my justification for the research methodology I employed and I describe the data collection and analysis methods used. I present research limitations and ethical considerations of the study. Finally, I outline the professional development model used in this study.
Chapter 3:
Methodology and Research Design

Introduction

The purpose of this study was to explore the perspectives and experiences of five teachers from one large urban school as they participated in a collaborative learning community (CLC) focused on the topic of supporting students with characteristics of ADHD. Particularly, I was interested in their perceptions of the effectiveness of the CLC on their professional growth and practice in the area of literacy teaching. Although studies show that professional development programs can lead to improvement in teacher knowledge about ADHD (e.g., Jones et al., 2008; Kos et al., 2006), they provide limited insight into teachers’ responses to the program or subsequent changes in their practice. Little research has been done in this area. This study was designed as a response to the noticeable lack of detail in the literature. My study investigates teachers’ experiences in a CLC and their resulting teaching practices using a qualitative methodology.

In this chapter, I outline the methods used in this dissertation; there are seven sections. In the first section, the main features of qualitative research methods are outlined along with the rationale for its use in this study. In the second section I describe my use of case studies and include information on both participant and site selection. In the third section, the qualitative methods used to gather data are described including interviews, observations, and researcher reflective journal. Triangulation is also discussed. In the fourth section, the description of the techniques used to analyze the data is provided. In the fifth section, the professional development model is described. The final two sections of the chapter cover research limitations and ethical considerations.
Qualitative Research Methodology

Qualitative methods were chosen because I was primarily interested in a rich and detailed understanding of these experiences. I also felt it was the most appropriate means of exploring the complex world of teaching and teacher learning from the perspectives of the teachers themselves (Punch, 2009). Patton (2002) warns that qualitative research can be “time-consuming, intimate, and intense” (p. 35), but as Wolcott (1995) suggests, its rewards make it worth the effort. Qualitative research involves collecting and studying a variety of materials that describe experiences, thoughts, and meaning in the lives of individuals (Denzin & Lincoln, 2003). Corbin and Strauss (2007) suggest that perhaps the most important reason that a researcher chooses to do qualitative inquiry is so that we may view the world vicariously from the perspectives of the research participants, with the hope of developing empirical knowledge from the discoveries. Qualitative analysis, in essence, involves interpretive work, characterized by the inclusion of the “perspectives and voices of the people whom we study,” as well as explicitly considering one's own role within this process of interpretation (Strauss & Corbin, 1994, p. 274). In this respect, the qualitative researcher becomes an integral part of the unfolding.

Qualitative researchers use a number of means to better understand their subject matter including case study, personal experience, introspection, life story, interview, artifacts, cultural texts and productions, observational, historical, interactional, and visual texts. These all describe both routine and problematic moments and meanings in individual lives (Denzin & Lincoln, 2003). I chose to use a case study approach to study the experiences of my participants. In the following section I outline the case study approach in general, and then provide details of how it was utilized in this study in particular.
Qualitative Research Methods in the Present Study: Case Study Approach

A case study approach was chosen as the organizing framework for this study. A case study is identified as the model of inquiry that intensely describes and analyzes a single unit system such as a school, a program, or a practice (Corbin & Strauss, 2007), therefore, providing a valuable methodology for conducting research into teacher experience and practice. In a case study, the researcher makes a detailed description of the case and its setting (Creswell, 1998; Merriam, 1998; Stake, 1995). Wolcott (1990) suggests that description is the “foundation upon which qualitative data is built” (p. 27). As such, the researcher becomes a storyteller – inviting the reader to see what they have seen through their eyes and then offering an interpretation.

As a major data gathering technique, a case study often includes participant observation, usually in conjunction with formal and informal interviews and document analysis (Bogdan & Biklen, 1998). This design is a rich source of data grounded in experience rather than theory (Denzin & Lincoln, 2003). Guba and Lincoln (1981) suggest that case studies provide opportunities for descriptions which are grounded, holistic, and natural. Case study analysis also allows for triangulation in order to take advantage of a full variety of evidences including interviews, observation, and document analysis (Merriam, 1998). A multiple case study design includes more than one case, and the analysis is performed at two levels: within each separate case and across all of the cases (Stake, 1995; Yin, 2011).

For my study, I employed a multiple case study approach. The experiences and perspectives of each of the five individual elementary classroom teachers formed a case study and the five cases were compared and contrasted. I chose this approach because I wanted to present a rich and vivid understanding of teachers’ individual experiences in the CLC. I also
hoped the analysis across their experiences might provide an understanding of teacher professional learning somewhat more generally.

**Research Participant Selection**

This research took place with teachers from a Junior and Senior Public school in a large urban center in Ontario, Canada (see site selection in following section). The school board in which I conducted my study is one of the largest school districts in North America. It is therefore broken into many regions with a superintendent of education overseeing each separate region. I met with one of the superintendents in an effort to discuss securing an appropriate school site for my research study. In preparation for this meeting, I researched each of the 25 elementary schools in her territory. I was interested in conducting my research in a school setting where professional development on the topic of supporting students with special needs was part of their school mission. I felt this increased the chance of the participants staying for the duration of the study, therefore reducing the chance of attrition. The superintendent suggested Hampshire Public School as one of the possible sites for my study. Through my research, I knew that Hampshire Public School was committed to professional development for teachers, particularly on the topic of supporting students with special needs. With permission from the school principal, recruitment of teachers from the school site commenced with ethical review approval from my institutional Ethics Review Committee in September 2009. An open invitation was sent to all teachers inviting them to attend an informational session outlining the details of my proposed study.

Criteria for selecting the participants for this phase of the research included:

1. being an elementary general education classroom teacher;
2. having students with characteristics of ADHD in their classroom at the time of the study;

3. and being interested in improving knowledge about ADHD and literacy teaching practices for students with characteristics of ADHD.

A consent letter outlining the details of my study was distributed to teachers at Hampshire Public School (see Appendix A). Consent forms were collected from five teachers who were interested in being participants in the study. Although Creswell (1998) suggests it is not typical to choose more than four cases when using a case study approach, I chose to accept five participants into the study because they were all eager to participate in the professional development experience. I also accepted five participants in case one or more decided to leave the study before its end.

All 5 of the participants believed they had students with characteristics of ADHD in their classrooms and all were interested in learning more about how to better support their students with characteristics of ADHD. All participants were female. Two participants were kindergarten teachers, 1 was a Grade 1 teacher, 1 was a Grade 1/Grade 2 combination class teacher, and 1 participant was a Grade 3 teacher. Each participant believed they had at least two students with concerning levels of characteristics of ADHD within the classroom. None of the participants had previously participated in professional development specifically on the topic of ADHD (see Table 1).

To ensure that participation in the study was fully voluntary, “conflict of interest” measures were in place throughout the process. That is, all participants were told explicitly throughout the recruitment process that they were in no way obligated to participate in the study and they were able to withdraw from participation at any time without penalty.
Table 1

*Teacher Background Information*

<table>
<thead>
<tr>
<th>Name of participant</th>
<th>Years teaching</th>
<th>Grade(s)</th>
<th>Prior PD on the topic of ADHD</th>
<th>No. of students with characteristics of ADHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>5</td>
<td>Grade 1/2</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Wendy</td>
<td>9</td>
<td>Grade 3</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Connie</td>
<td>10</td>
<td>Kindergarten</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Kathy</td>
<td>18</td>
<td>Grade 1</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Danielle</td>
<td>20</td>
<td>Kindergarten</td>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

**Research Site**

Hampshire Junior and Senior Public School is a large, urban school that was originally founded in the early 1900s. Though it began as a one-room schoolhouse, it has since expanded to accommodate approximately 1,100 students from Kindergarten to Grade 8. It is considered a dual track school because it offers both regular English and French immersion programs. Approximately half of the student population is enrolled in Hampshire's early immersion program which begins in Senior Kindergarten. Hampshire Public School has a full-time principal and two vice principals. The school is mostly racially and socio-economically homogeneous, with very few examples of exceptionally low or high ranges of socioeconomic status (as reported by the teachers). Approximately 16% of the student population has a primary language other
than English. Four percent of students were born outside of Canada (Brown & Sinay, 2008).

Eight percent of the student population at Hampshire school is considered *special needs*.

**Data Collection Strategies**

To provide richness and depth, this study utilized multiple sources for collecting the data:

1. in-depth semistructured individual interviews with five participants;
2. researcher reflection Journal;
3. follow-up discussions and/or e-mails to secure additional information on the emerging themes;
4. observations of teachers engaged in classroom practice;
5. collaborative learning community meetings with entire group.

The following section describes and justifies each source used for data collection.

**Interviews**

Interviews are the most prominent data collection tool in qualitative research (Punch, 2009). Indeed, they are a very good way to assess people's perceptions, meanings and understandings of situations and reality. According to Punch (2009) interviewing allows the researcher to gain insights into others' perspectives about the phenomenon under study. It is particularly useful for ascertaining respondents’ thoughts, perceptions, feelings, and retrospective accounts of events. Interviews are intended “to gather descriptive data in the subjects’ own words so that the researcher can develop insights to how subjects interpret some piece of the world” (Bogdan & Biklen, 1998, p. 94). Interviews also capture valuable information that observations alone cannot. As Patton (1985) has remarked,
We interview people to find out from them those things we cannot directly observe. The issue is not whether observational data is more desirable, valid, or meaningful than self-report data. The fact of the matter is that we cannot observe everything. We cannot observe feelings, thoughts, and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot observe situations that preclude the presence of an observer. We cannot observe how people have organized the world and the meanings they attach to what goes on in the world. We have to ask people questions about those things. (p. 195)

There are many types of interviews. While the most common type of interviewing is individual, face-to-face verbal interchange (Merriam, 1998), they can also take the form of group interviewing, mailed questionnaires, or telephone surveys (Fontana & Frey, 1994). In addition, Fontana and Frey (1994) describe three main classifications or types of interviews – structured, semistructured, and unstructured interviewing. The type of interview used depends on the goal of the context and research purposes. The semistructured interview is in the middle between structured and unstructured interviews. As Merriam (2009) points out the semistructured format allows the researcher to “respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic” (p. 90).

**Interview Design**

I selected interviews as a method for data collection because the purpose of my research was to gain a deeper insight into the perspectives and experiences of the participants. I was interested in learning more about their points of view and their lived experiences. Specifically, I was interested in learning more about their past and present experiences as well as their attitudes, beliefs, and classroom practices related to teaching students with characteristics of ADHD. I was also interested in learning more about their perspectives and experiences related to their participation in the CLC.
Semistructured interviews were used because they allowed me to have a common structure for the research questions while also having flexibility to ask ongoing probing and follow-up questions. Follow-up questions provided the opportunity to verify the data being recorded (Lincoln & Guba, 1985). Interviews were conducted with each of the five participants in three stages. First, all participants were interviewed before they began participation in the professional development portion of the study (December 2009). This was done in order to gather descriptions of their prior experiences, both personal and professional, with students with characteristics of ADHD and their current and past classroom experiences. This interview was conducted in order to more fully understand how their past experiences helped shape their understanding, knowledge, attitudes, and skill set with students with characteristics of ADHD. The second interview was conducted immediately after participants completed their professional development portion of the study (June 2010). This interview was conducted in order to more fully understand the participants’ experiences in the CLC. I was also interested in learning about how their perceptions of their knowledge and their perspectives had changed as a result of the PD. The third and final interview was conducted 6 months after professional development had ended (December 2010) in order to explore whether participants felt their experience in the CLC led to any sustained growth, or change in their perspectives and/or their literacy teaching practices particularly related to their students with characteristics of ADHD.

This interview schedule was designed on the basis of key themes identified from issues prevalent in the research literature. They were carried out in the participants’ school site and resembled a general conversation between two professionals. The interview was guided by a list of open ended questions or issues to be explored. They were open-ended, flexible, and conversational. All of the participants were asked the same questions during the interviews but I
asked additional prompt questions to verify interpretations of answers, to extend comments, and to explore areas that were brought up by the participants. The interviews varied in length from between 45 to 75 minutes, and they were tape recorded and transcribed.

In the first interviews (see Appendix B) conducted in November of 2009, participants were asked questions related to background information about the school and classroom in which they were teaching, their own undergraduate and preservice education, as well as about any professional development experiences they had had. They were also asked about their specific teaching context at the time of the study related to students with characteristics of ADHD and their comfort level with this population of students. They were asked about their general knowledge and understanding about ADHD, and any past experiences they had teaching students with characteristics of ADHD. They were also asked about their goals and learning interests for the CLC.

In the second interviews (see Appendix C) conducted in June of 2010, within a few weeks of the final CLC meeting having taken place, participants were asked about their perceptions related to knowledge and understanding about ADHD, about their experiences within the CLC, and finally about their perceptions of the effectiveness of the CLC related to their professional growth and practice.

In the third and final interviews (see Appendix D) conducted in December of 2010 – 6 months after CLC meetings had finished – participants were asked again about their perceptions related to knowledge and understanding about ADHD, about their experiences within the CLC, and about their perceptions of the effectiveness of the CLC related to their professional growth and practice. The purpose of asking the same questions again was to find out retrospectively,
how participants felt about their experience within the CLC 6 months after formal meetings had stopped.

Observations

Since interviews alone cannot reliably present an accurate picture, I collected observation data. As Adler and Adler (1994) suggests, “for as long as people have been interested in studying the social and natural world around them, observation has served as the bedrock source of human knowledge” (p. 377). Like interviews, observation as a data collection technique can be structured or unstructured to varying degrees, with qualitative observations at the more unstructured end of the continuum (Punch, 2009). Qualitative observations tend to be open ended, and actions and events are recorded as they naturally unfold (Punch, 2009). As Punch (2009) outlines, “categories and concepts for describing and analyzing the observational data will emerge later in the research, during the analysis, rather than be brought to the research or imposed on the data, from the start” (p. 154).

In the present study, data was collected from observations of teacher practice in the classroom as well as participant observations in the CLC. Observations in the classroom were conducted not to determine the degree of congruence between the teachers’ intentions and subsequent actions, but to gain insight into the relationship between each participant’s thoughts, actions and classroom context. Detailed descriptions of the participants’ practice, recorded through fieldnotes, enabled me to have a better understanding of the possible influence of participation in the CLC on their practice.

As a participant observer during the CLC meetings, my role differed from what it was as an observer in the teachers’ classrooms. In these group meetings, my role changed from a more detached observer of the situation, to both participant in and observer of the situation (Punch,
2009). My role was a dual one: to document the experiences of the participants AND to participate in the dialogue as I shared my own knowledge around pedagogy in the area of early literacy and ADHD and my reflections from observations and participation. My role was also to join in on the discussions, to share my observations, and to help provide the resources and information necessary for them to pursue their goals. My role was to also gather data. The teacher’s self-reflections shared in the CLC meetings served both as a means of professional growth for the teachers and also served as a means of data gathering for the study.

**Researcher Reflective Journal**

The researcher is the primary “instrument” of data collection and analysis and therefore reflexivity is considered essential in qualitative research (Glesne, 1999; Merriam, 1998; Stake, 1995). A number of experts (e.g., Glesne & Peshkin, 1992; Maxwell, 1996, 2005) suggest that it is very beneficial to write short notes or memos to oneself throughout the research process. They argue that recording ideas when they occur is the actual beginning of analysis. As Maxwell (1996) asserts, notes to oneself can, “convert thought into a form that allows examination and further manipulation” (p. 11).

For these reasons, I maintained a reflective journal throughout the research. The journal became a place to record observations, thoughts, feelings, and questions that emerged during CLC meetings, observations and interviews. It also was a place to record reflections about patterns and themes that were emerging in the interview and observation data, and connections to theoretical ideas from both the literature and my fieldwork.
**Triangulation**

As Stake (2005) outlines, triangulation is a way of increasing validity through arriving at the same or similar interpretation of the data by at least three independent approaches. By triangulating data (Creswell, 1998; Merriam, 1998; Patton, 2002; Stake, 1995), I attempted to provide “a confluence of evidence that breeds credibility” (Eisner, 1991, p. 110). In other words, I collected data in multiple forms in order to confirm that my interpretations were reasonable. I did this by triangulating my findings from the individual interviews, CLC meetings, classroom observations, and through my researcher reflective journal and fieldnotes.

**Data Analysis**

**Grounded Theory**

Punch (2009) describes Grounded Theory as a strategy or method used to generate theory that will be grounded in data. Strauss and Corbin (1994) describe it as a “style” of qualitative analysis that includes theoretical sampling, making constant comparisons, and the use of the coding paradigm (p. 5). Grounded Theory offers a “systematic, qualitative procedure” by which to “generate a theory that explains, in a broad conceptual level” complex processes -- in this instance, teachers’ experiences and practices in the classroom (Creswell, 2004, p. 396). I contend that existing theories and conceptualizations do not offer a satisfactory or a fully texturized picture of teachers’ professional learning experiences in a CLC on the topic of ADHD. Grounded theory “offers a systematic procedure for analyzing data,” and as such provides rigor and structure, considered particularly important for “the beginning qualitative researcher” (Creswell, 2004, p. 396). For Punch (2009) Grounded Theory involves “finding conceptual categories in the data, finding relationships between the categories, and conceptualizing and accounting for these relationships. Grounded Theory utilizes an inductive approach, which can be particularly useful
for addressing questions about process, where the goal is to understand details about how something changes over time (Merriam, 2009). This logic provided the rationale for my use of this approach to analyze the data in the present study.

In common with other methods of qualitative research, Grounded Theory approaches explicitly acknowledge the interpretive role of the researcher, requiring researchers to “accept responsibility for their interpretive roles,” by not only offering an account of events and the viewpoints of those involved, but adding further interpretation (Strauss & Corbin, 1994, p. 274). Charmaz (2005) refers to this as Constructivist Grounded Theory, which locates the researcher as part of the reality being studied. This does not assume that there is an objective truth awaiting discovery by the researcher. Instead, Charmaz’s constructivist approach to grounded theory assumes that multiple realities exist, that data reflects the researcher’s and the research participants’ mutual constructions, and that the researcher enters and is affected by the participants’ worlds. As Charmaz (2005) posits, this approach provides an interpretive portrayal of the studied world, not an exact picture of it.

With an understanding that there is no assumed objective truth, this underscores the need to reflect upon myself in the role of researcher, and to consider and confront my own personal and professional strengths, limitations, and biases that I bring to my research. As an experienced teacher, I have a significant background of experience with teachers and in the classroom. Eisner (2002) relates such experience to an educational “connoisseurship” where through our understanding of the “subtle and complex” we attempt to render “what we see in a way that does not reduce those phenomena so radically that they no longer represent the situation we are trying to describe, interpret, evaluate, and schematize” (p. 189). Bogdan and Biklen (1998) assert, “although the idea that researchers can transcend some of their own biases may be difficult to
accept at the beginning, the methods researchers use aid this process” (p. 33). In response to this, I triangulated my data in order to minimize potential bias. As previously mentioned, my multiple data collection procedures are interviews, participant observations, fieldnotes, and researcher reflective journal.

For my study, I used the principles of Grounded Theory to analyze my data. I read the transcripts of the interviews and CLC meetings, my observation notes, and my researcher journal and fieldnotes numerous times throughout the data collection period and afterward. I initiated my analysis after the first round of interviews and observations; I used a process of “open coding” (Strauss & Corbin, 1990), to identify salient words, phrases, sentences and/or paragraphs that represented aspects of teachers’ experiences. Once these were identified, they were grouped together into categories (Strauss & Corbin, 1990), such as “personal connection to the topic of ADHD,” “use of adaptive literacy teaching strategies,” and “prior professional development experiences.” Subsequent data gathering (e.g., additional interviews and observations) were informed by the emerging categories. In the second interview, for example, I wanted to gather more information about teachers’ personal connections to issues of special needs.

As the study progressed in this way, I conducted “axial coding” (Strauss & Corbin, 1990, p. 96). I began to make connections between categories using the constant comparison method (Glaser & Strauss, 1967). Larger themes began to emerge from the data. For example, a relationship began to emerge between teachers’ personal connections to issues of special needs and their interest in learning about, and use of, adaptive literacy teaching strategies for students with diverse learning needs. From my analysis, I was able to find a common set of categories for individual case studies and then compare across participants, continuing to use the principles of constant comparison (Glaser & Strauss, 1967). Materials were continually reviewed for
clarification, and commonalities between the responses of participants were looked for. Once these commonalities were found, I continued to add, delete, modify, and eventually establish themes. Finally, using “selective coding” (Strauss & Corbin, 1990, p. 116), the core categories were established and the “storyline” (Charmaz, 2005; Strauss & Corbin, 1990, p. 119) was generated. An example of one of my selective codes is, “teachers who had past personal experiences related to issues of special needs focused on adapting their literacy instruction for their students with special needs.”

**Safeguarding Validity**

In qualitative research, ensuring validity and reliability involves, “conducting the investigation in an ethical manner (Merriam, 2009, p. 209). As Stake (2005) suggests, a researcher’s findings face, “hazardous passage from writing to reading. The writer seeks ways of safeguarding the trip” (p. 455). Terms such as trustworthiness, dependability, and authenticity often substitute for terms such as internal validity, external validity, reliability and objectivity (Lincoln & Guba, 1985).

In order to check for the trustworthiness and authenticity of my study and in order to *safeguard the trip*, I triangulated my data, as previously explained. I also conducted member checks, and I participated in frequent peer reviewing and debriefing. Member checking means checking with the people who are being studied, and who gave the data. (Punch, 2009) For example, interview transcripts can be taken back to the interviewee before analysis to check for accuracy. In my study, member checks were made with each of the participants to ensure that all three of the transcribed interviews accurately represented their thoughts and perspectives. When interviewees wanted their comments modified, the data was changed to represent these requests.
According to Lincoln and Guba (1985) peer debriefing is, “the process of exposing oneself to a disinterested peer in a manner paralleling an analytical session and for the purpose of exploring aspects of the inquiry that might remain implicit within the inquirer's mind” (p. 308). For my study, I met with peers on a monthly basis during the planning stage, through data collection, and also while writing my report to discuss and evaluate the appropriateness of my research methods, the trustworthiness of my interpretations, the plausibility of my findings, and the integrity of my written report.

**Professional Development Model**

The goal of my research was to investigate how teachers experience a CLC focused on supporting students with characteristics of ADHD. Having been informed by research literature on teacher learning and the features of high quality and effective professional development, I knew I was interested in studying how teachers experienced a professional development (PD) process that incorporated inquiry-based and constructivist approaches, that was collaborative and embedded in teachers work, and that put teachers in a position of ownership over the details of how the PD would unfold. A learning community seemed an obvious choice for the organizing framework of the PD because it embodies these aspects. I came to my participants with an invitation to participate in my study and in subsequent PD that would focus on learning how to better support students with characteristics of ADHD. Participants were not given a choice in this general topic of focus. The final structure, format, and detailed content of the CLC, however, came about through an emergent and co-constructed process with the participants. This process was informed by interviews conducted with each of the teachers before the CLC meetings began and through ongoing dialogue and communication in the midst of CLC meetings.
**Decisions About Format and Content**

Although I designed this study with questions in mind (see the previous section, Introduction), the teachers also had their own questions and areas of interest. These questions formed a framework embedded within the larger structure of the research design. As Greene (2000) suggests, “once granted the ability to reflect upon their practice within a complex context, teachers can be expected to make their own choices out of their own situations” (p. 12). In this case, teachers did just that. In our introductory meeting together (December 2009), I informed the participants I would be asking each of them, during our first individual interview together a few weeks later, to outline what they were interested in related to the format and content of the CLC. Based on these initial interviews which focused, in part, on the participants’ prioritized needs, the structure for the CLC meetings would be loosely established. Ultimately, participants were invited to make choices about both the structure and content of the professional development and to establish their own learning goals based on areas of interest, perceived needs, and the realities of their classroom context.

**Structure**

Related to the structure and format of the CLC, participants were asked: “how would you like CLC meetings to be structured? Participants communicated in their initial interviews that they were interested in:

- working closely alongside their colleagues;
- having control over the direction of the CLC;
- having the CLC be site-based and grounded in day-to-day teaching practice;
- having CLC meetings integrated within the workday;
- having a greater number of meetings with a shorter duration rather than fewer and longer meetings;
- having opportunities to try out new strategies in their classrooms and come back to the group to share, discuss, and receive feedback from each other;
- input from me as an external source of information on ADHD and literacy.

**Content**

Participants were also asked about their interests related to specific content for their CLC. In my initial interview with each of the participants, I posed the following question: “We will be focusing on the general topic of supporting students with characteristics of ADHD. What are the specific areas that you are interested in focusing on or learning about in your CLC?” Participants communicated that they were interested in:

- a general overview of the nature of ADHD (causes, typical symptoms, how identified, etc.);
- the cognitive component of ADHD and educational implications (i.e., what is happening in the brain of a student with ADHD that results in inattention, hyperactivity, impulsiveness);
- supporting students with characteristics of ADHD and their literacy learning (reading and writing);
- having opportunities to discuss students from their own classrooms as “real world portraits of children with characteristics of ADHD” and to discuss appropriate responses;
- strategies for the behavioral issues associated with ADHD;
- having access to current research articles and books on the topic of ADHD.
Interests That Emerged Within the Collaborative Learning Community (CLC)

The professional development model was an emergent and co-constructed process, therefore the structure and content of the CLC was flexible, fluid, and based on participants’ ongoing and changing needs. Participants were encouraged to continue to make decisions related to tailoring the CLC to their contexts and their particular goals. At the beginning of each group meeting we revisited these goals and made changes when priorities and needs shifted. Based on these discussions, participants made decisions to:

- focus on specific strategies for students with the inattentive type of ADHD
- investigate ways to improve communication with parents on the topic of ADHD
- conduct peer observations
- rotate CLC meetings so that participants would each have an opportunity to have a session hosted in their classroom

Content Sources

Books, research articles, handouts, and information provided to the participants in the CLC were chosen or developed based on participants’ declared learning goals. Resources were also chosen and developed in consultation with Dr. Rosemary Tannock who is a renowned educational researcher and expert in ADHD and learning.

Overview of Collaborative Learning Community Meetings

Beginning in February 2010, participants attended eight CLC meetings focused on supporting students with characteristics of ADHD. Participants agreed on dates for each of the CLC meetings. They decided it would be most beneficial to have meetings approximately every 2 or 3 weeks (see Table 2). The schedule for the meetings took into consideration the weeks it
would be inconvenient for teachers to meet because of report card writing, testing, field trips etc. Each professional development session took place during teachers’ lunch hour, as requested by the participants, and lasted approximately 55 minutes. The first two meetings took place in the Speech and Language room within the school. For the remainder of the meetings, participants decided to take turns hosting in their classrooms. This gave them an opportunity to become familiar with the structure and layout of each other’s teaching contexts.

Table 2

Overview of Collaborative Learning Community Meetings

<table>
<thead>
<tr>
<th>Date of session</th>
<th>Location</th>
<th>Topic</th>
<th>Resources / Handouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 24, 2010</td>
<td>Speech and Language Room</td>
<td>General overview of ADHD: ABCs of ADHD (typical characteristics, educational implications of ADHD, general strategies)</td>
<td>Article: The Educational Implications of Attention Disorder</td>
</tr>
<tr>
<td>March 9, 2010</td>
<td>Speech and Language Room</td>
<td>Characteristics of ADHD, Behavior, and Cognitive Challenges: Executive Functioning, Working Memory, and Processing Speed</td>
<td>Article: Arranging the Classroom with an Eye (and Ear) to Students with ADHD</td>
</tr>
<tr>
<td>March 31, 2010</td>
<td>Wendy's Classroom</td>
<td>ADHD and Literacy: Language Functioning, Reading, and Written Expression</td>
<td>Article: Rethinking ADHD in the Classroom: Language and Literacy in ADHD</td>
</tr>
<tr>
<td>Date of session</td>
<td>Location</td>
<td>Topic</td>
<td>Resources / Handouts</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
<td>-----------------------------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>April 14, 2010</td>
<td>Danielle's Classroom</td>
<td>Mediating Behaviors Associated with ADHD</td>
<td>Article: Classwide Interventions for Students with ADHD</td>
</tr>
<tr>
<td>April 28, 2010</td>
<td>Connie’s Classroom</td>
<td>The Attention Deficit in ADHD</td>
<td></td>
</tr>
<tr>
<td>May 12, 2010</td>
<td>Kathy's Classroom</td>
<td>Talking with Parents about The Topic of ADHD</td>
<td>Article: Building Homeschool Partnerships</td>
</tr>
<tr>
<td>May 27, 2010</td>
<td>May’s Classroom</td>
<td>Peer Observation Discussion</td>
<td></td>
</tr>
<tr>
<td>June 16, 2010</td>
<td>Wendy’s Classroom</td>
<td>Mindfulness</td>
<td>Article: Learning Awareness, Balance, Compassion &amp; Clarity in the Classroom: the New ABCs</td>
</tr>
</tbody>
</table>

Each CLC meeting began with a check-in. Participants shared a few statements about their most relevant experiences within the weeks since the last meeting. Teachers shared, for example, details about attempting new teaching strategies, about challenges they were having with students, about student progress, about frustrations, and about hopes. Next, I would give a short 5-minute presentation, based on current literature and research, on the chosen topic for the day. Following this, one participant would present their student case study. For the remainder of the meeting, the participants and I discussed ideas and strategies for supporting this student. I
took notes based on these discussions and created a summary sheet for group members (see Appendices E and F). Each meeting ended with a discussion about possible modifications needed to the format, timetabling, or focus of the CLC. In Table 2, there is an overview of the general focus for each CLC meeting based on the participants’ stated learning goals.

**My Role in the CLC**

My role within the CLC was a dual one. I took part in each of the CLC meetings as both a participant in and observer of the situation (Punch, 2009). As an observer of the situation, my role was to gather data. The teachers’ experiences, thoughts, ideas, and self reflections during meetings served as both a means of professional growth for them and as a means of data gathering for the study. By being a participant observer, I was able to gather rich descriptions and understandings of participants’ experiences within the CLC.

As a participant in the meetings, my in-group role (Hargreaves, 1967) was to provide resources and information necessary for the participants to pursue their goals, and to join in on discussions and share my knowledge, experiences, observations, and suggestions. As such, I was a co-constructor of the CLC process along with the other participants.

**Limitations**

There are several potential limitations of this study. The first limitation relates to the small number of teacher participants. There were only five participants in this study; it is therefore not possible to generalize these findings to the wider teacher community. Although the participants varied in their ages, number of years of teaching experience, and, for example, race and culture, they all shared some similar characteristics. All of the participants teach in the same Primary Junior Division (Junior kindergarten to third grade), they all teach in the same large
urban center, and they all teach at the same school. All of the participants were female. This further reduces the generalizability of the findings.

The second limitation of the study was my position as a participant in and co-constructor of the professional development meetings. I infused my own philosophy of teaching into CLC meetings. By being a participant within the CLC meetings, I may also have influenced participants’ thoughts about the responses I desired during the interview process. For instance, I would imagine the participants may have felt that I was an advocate for this type of professional development, so they may have felt the need to respond positively to questions about their experience within the group.

The third limitation is related to my biases that arose throughout the study. Lincoln and Guba (2000) write about the importance of critically reflecting on the self as a researcher. Investigators need to explain their biases regarding the research being undertaken so that the reader may better understand how the researcher, "might have arrived at the particular interpretation of the data" (Merriam, 2009, p. 219).

As a researcher/teacher/consultant with a particular focus on supporting students’ diverse ways of being, particularly those of students with characteristics of ADHD, it must be noted that I have a personal agenda related to helping teachers see students’ difficulties as natural human variance as opposed to a “disability.” I was not just collecting data but was interested in helping teachers focused on enacting instructional practices that would give students opportunities to show their strength and competence. This may have affected how I contributed to co-constructing the CLC meetings.
I also may have been influenced by my biases that arose from my own professional experiences as a teacher. I may have identified with the participants who had a similar teaching style and focus.

**Ethical Considerations**

This study was subjected to ethical review, which was approved by the University of Toronto Research Ethics Board in August 2009 and renewed in August 2010 and 2011 (Ref: 24379). Participants signed and submitted a letter of informed consent. Issues of confidentiality and anonymity were outlined in this letter. To protect participant identities and information, pseudonyms were used throughout the study. All data, including observation notes, audio recordings, and transcripts were secured in a locked facility. Electronic files were protected by passwords. In order to minimize the chance of participation by obligation, participants were informed that they could withdraw from participation at any time without penalty. Participants were further informed that if they chose to withdraw from participation at any time during the study, all of the data pertaining to them would be destroyed immediately and not be used as part of the study.

**Chapter Summary**

The chapter illustrates how investigating teachers’ experiences in a CLC devoted to supporting the literacy learning of students with characteristics of ADHD was achieved through the research methods that were employed. It outlines the main features of qualitative research methodology and provides a rationale for its use in the present study. The research design is detailed. Data collection and analysis processes and methods are described and justified. The case is made that the research process was appropriate, rigorous, and ethical. In the next chapter I
begin the presentation of the findings of the study through individual case studies of the five participants.
Chapter 4:
Findings:
Individual Case Studies

Introduction

In this chapter I present the individual case studies of the five participants in this study. All of the participants are elementary teachers in the general education classroom and are from one large urban school. They all taught in the Primary level (JK–Grade 3). Four of the participants were teaching in the English program. One teacher taught in the French immersion program. Each of the participants had at least two students with characteristics of ADHD in their classrooms.

The case studies are composed of a brief description of the participants’ professional learning, their past professional experience, and their personal life context in relation to diverse learning needs. Their current teaching context, knowledge and understanding about ADHD and response to the CLC is outlined. The case studies introduce the themes that will be developed further in chapter 5.

Case One: Wendy

Wendy is an elementary classroom teacher who had been teaching for 9 years when this study began. She had been teaching Grade 3 in a large urban school district for 4 years. Wendy is very clear that her teaching has been strongly influenced by her own experience as a student with special needs. She is dedicated to helping her students – especially those with learning difficulties – feel confident, safe, and prepared for success. This is especially important to her in the area of literacy, perhaps because she herself struggled so much in reading and writing.
Ongoing professional learning is also a priority for Wendy. She is interested in professional development which is job embedded, grounded in the reality of her teaching context, and takes place with her colleagues. Until her participation in this study, she had had little opportunity for this type of professional learning.

**Professional Learning**

**Preservice**

Wendy completed her teaching degree in a 5-year concurrent Bachelor of Arts and Bachelor of Education program. She believes this concurrent program, compared to a 1-year consecutive teacher education program, gave her more opportunities for extensive classroom experience over a much longer period of time. Compared to most programs, she believes, “you get more hands on experience and I believe that prepared me well.” Wendy does point out, however, that she had very little training in how to support students with special needs and no training in how to support students with ADHD in her undergraduate program. She says, “the topic was mentioned but they really talked around the subject rather than giving any great insight.”

**In-service**

Wendy has participated in a number of professional development opportunities, largely consisting of additional qualification courses offered through the Ontario Ministry of Education. With the additional goal of raising her pay grade, Wendy took back-to-back courses during the first 3 years of for teaching. She says, “that's all I did. I was a new teacher and I was doing additional qualification courses and going to workshops outside of school.” Wendy says that early on in her career she participated in professional development that helped with larger program planning issues – how to set up a balanced literacy program or a strong math program.
Now, as an experienced teacher, she chooses professional development experiences that focus more on specific classroom issues and the detailed ways to optimize learning. She cites her invitation to participate in professional development through this study as one of these opportunities. Until this time, she had had no professional learning on the topic of ADHD.

**Personal Life Context in Relation to Diverse Learning Needs**

Wendy has quite vivid memories of her own experiences as a young learner. She remembers having a very difficult time in Grade 1. She recalls sitting at her desk and spending most of her time “dazed off into outer space,” because she couldn't understand what she was supposed to do. She remembers wanting to ask her teacher for help, but she didn't feel as though she could easily access her. This was because her teacher had a very strict rule about having no more than three students lined up at her desk at one time. Because of this rule, she felt unable to get the help she needed to effectively complete her work. As a result, she says, “I sat at my desk and I didn't do anything.”

When Wendy's teacher declared that she planned to fail her at the end of her Grade 1 year, her parents decided to have a psychoeducational assessment completed privately. Soon after, Wendy was identified as having an audiovisual learning disability. This, as it turns out, was why Wendy had been having such a difficult time remembering the teachers’ instructions and following through with her work. This identification gave Wendy and her parents some valuable insight into why she was struggling academically and the kind of instruction and support she needed in the classroom. “What I needed was for things to be repeated a lot because I could hear it and remember it in one moment but the next moment I would have no clue.”

After the identification of her learning disability, Wendy was “withdrawn” from her classroom for part of the day and brought to a separate half-day program where she received
specialized support. This continued through middle school and high school. Interestingly, it was during her most difficult high school years that she was inspired to become a teacher. Wendy recalls, “I had an amazing Special Ed teacher in high school who sat with me for hours after school giving me support and making sure that I understood what I was doing – she was just someone who was really caring.” She believes that if she hadn't had this kind of support or the support of “someone who wasn't as compassionate as her, things may have ended up very differently.” Wendy attributes her academic success in both high school and university to this teacher who had such a profound impact on her life. It was her compassion and guiding force that eventually inspired Wendy to follow in her footsteps and enter the teaching profession herself.

**Prior Professional Experience**

Wendy was just 21 years old when she graduated with her teaching degree. She felt as though she was too young and inexperienced to take on the responsibility of full-time teaching in a classroom, but nonetheless she accepted a teaching job in London, England for 6 months. Once she returned to Canada, she accepted a contract position in a large urban school board. After a few years of teaching primary grades in this same board, she was eventually hired into a full-time Grade 3 position in her current school where she had been teaching for 4 years. Wendy is very happy to have been teaching Grade 3 for this duration. She feels that having had the opportunity to teach in the same grade for a number of years has given her the chance to build a “solid foundation of my own teaching practice.”
Teaching Context

Wendy feels strongly that her own experiences as a struggling and misunderstood learner have profoundly affected her priorities and practice as a teacher. She feels “tuned in” to her students – especially to those who were struggling academically. She says, “I'm probably much more aware of the individual needs that each student has and also the fact that in my class I have such a wide range of learning abilities.” Particularly, and likely because of her own experience, she highlights her commitment to checking for understanding when she gives instructions to her students. She always repeats her instructions, writes them on the board for all to see, and calls on children who need reinforcement to repeat those instructions back to her. She recalls, “I remember hating school when I was little and I felt different. So I don't want them to feel like I did and I'll do whatever it takes to be sure of this.” It is this commitment to supporting striving learners that also motivated her to participate in a CLC devoted to learning about supporting students with characteristics of ADHD.

During the year of this study, Wendy was teaching Grade 3 and had 23 students. Two of her students were in a special education classroom called Home School Program (HSP) for half of each day. They got intensive language and math support in this classroom. Another five students had been taken to team for various concerns. The term taken to team refers to an action taken when teachers have concerns about a student's progress. A school team, consisting of teachers and specialists, meets to discuss these concerns and to create a plan of action for support. Wendy suspected four of them, three boys and one girl, may have had ADHD. She was also quick to acknowledge that there may have been more girls who had issues of inattention, but because they didn't have behavioral problems weren't as easily noticeable. She stated, “the girls may not be able to keep their attention, but it doesn't really show in their behavior; it shows more
in their academics and what they're able to do.” She admitted that because the boys were the ones who acted out, they were the ones to get the most attention.

There was a strong sense of community in Wendy’s Grade 3 class and the students held each other accountable for their behavior. When children went off task or acted out, particularly those with characteristics of ADHD, the other students “called them out.” For example, students would tell them to be quiet if they were interrupting the teacher or give them firm reminders of what they needed to be doing if they were off task. In part, Wendy believed this was because her students had been together as a cohort since kindergarten and they were comfortable with holding each other accountable. She stated, “the other children are now realizing who the kids are that are holding us back in terms of their behavior – like acting out and being disruptive, and they're calling them out on it now.” Interestingly, this may also have been because Wendy's students were following her lead. At the beginning of the study, Wendy saw her students with characteristics of ADHD as somewhat of a hindrance to the delivery of her program. “Sometimes I imagine that we could do all of these fun things, but then we end up not being able to do it because it's just going to totally set them off.” By the end of the study, her increased understanding of her students with characteristics of ADHD and their literacy learning challenges led to a more positive characterization of them. Rather than seeing them as somewhat of a problem to be overcome, she now saw them more as students who could succeed given the appropriate environmental and instructional support.

**Knowledge and Understanding of ADHD**

Wendy entered into this study feeling somewhat confident about her level of understanding about supporting students with ADHD. During her first year at her current school, she had a student with ADHD in her classroom whose mother shared quite a bit of information
on ADHD with her. She had also done some of her own independent reading as she says she had no specific training about supporting students with ADHD from her preservice program or since becoming a teacher. At the conclusion of the study, however, Wendy admits she didn't realize how much she didn't know about her students with characteristics of ADHD, and felt she had learned a great deal. She says, “I had very little information other than ADHD meant someone couldn't focus. I didn't know about all of their other challenges. At the beginning of the study Wendy rated her knowledge level at 8/10. Six months after the conclusion of the CLC, Wendy admits she would now rate her knowledge level at 4/10 before the study began. She was happy to give herself a rating of 10/10 after having participated in the CLC.

Response to the Collaborative Learning Community Experience

Wendy first became interested in taking part in the CLC when she found out she would be having a number of students with characteristics of ADHD in her classroom the following year. Interestingly, but not surprising, she makes reference to finding a way to ease her own stress level and the stress level of her other students without characteristics of ADHD. She says, “you know certain kids, you hear their names, and you know their reputation. You start thinking, what can I do to ease my stress? Is there anything else that is out there that can keep everyone's stress level down?”

Wendy found that a number of instructional and environmental strategies she learned about during the CLC supported her literacy teaching practice positively. Having had the opportunity to increase her toolbox of strategies through ongoing training was not surprising to her. What she did find somewhat surprising was the impact of learning about the neurobiological aspects of ADHD. She specifically points to learning about students’ difficulties with executive functioning and working memory as being “the most valuable” in helping her to understand and
support her students better, particularly in their literacy learning. As a result of learning about the importance of not overloading her students’ working memory (clipboard), she has incorporated new strategies in her reading and writing program.

She feels this experience has also changed her personal perspective and in turn her practice in the classroom. She feels more patient and more compassionate toward her students with characteristics of ADHD and more confident to teach them. When referring to two of her students, who had initially been causing her a great deal of stress, she says, “I've learned to take a step back and not lose my patience with them as quickly – knowing what I know about them now.” Wendy feels she has a better understanding of her students’ particular ways of learning and showing their knowledge. As a result, she feels she is able to implement more appropriate strategies for them. These end up having a, “positive effect on the way that they are learning.”

Wendy feels strongly that the structure of the CLC made a big difference in how effective it was. First and foremost, she feels being able to work over an extended period of time with a small group of teachers from her own school was invaluable. Comparing it to one shot 2- or 3-hour workshops, Wendy remarks,

It wasn't just thrown on our plates in 2 or 3 hours where we have to go figure it out on our own after. Because nine times out of 10, you're going to take that 2- or 3-hour workshop and you're going to look at what they gave you and it's going to get filed away. For this, we met once every 3 weeks or so and we would try things in our classrooms and come back and discuss as a group and follow-up. This is the kind of thing that sticks.

Wendy feels more confident in her ability to meet the needs of students with characteristics of ADHD, not only because she has better knowledge about ADHD and the kinds of strategies that support her students, but because she now has four other teachers within her
school that she can continue to go to as a resource on the topic. Wendy's practice continues to benefit from the supportive relationships that were cultivated through the CLC.

**Case Two: Connie**

Connie is a kindergarten teacher, who had been a classroom teacher for 10 years when this study began. For the majority of those years she has been teaching Junior and Senior Kindergarten at the same large urban school. Connie is warm, nurturing, and committed to meeting her students’ diverse learning needs. She was interested in participating in professional development on the topic of ADHD because she felt the need to learn more strategies to help her students thrive. She also wanted an opportunity to collaborate with and learn from her colleagues. This is something she has not had enough opportunity to do.

**Professional Learning**

*Preservice*

Connie completed her undergraduate degree in political science and history. She went on to receive a 2-year certificate in early childhood education and spent a number of years teaching in day care settings. From there she completed a 1-year Bachelor of Education degree with a primary junior emphasis and began teaching immediately.

*In-service*

Connie describes her participation in professional development over the years as, “spotty.” Early on in her teaching career she took additional qualification courses through the Ontario Ministry of Education to receive her primary specialist certification. She also took an additional qualification course in the area of reading. She attended some workshops provided by her school district, however, she did not find them particularly helpful. She explained,
Some of these workshops that I've been to over the years, it's like, “why am I here? Why?” For example, there was one about music. I thought we were going to get great ideas about how to implement music but instead of sharing ideas, we learned about the history of a classical instrument. . . . It was like, “Oh my goodness, no.” It has to be practical, something I could use, and it has to be geared to real-life in the classroom.

Connie is most interested in professional development that occurs over an extended period of time and that helps her with specific issues from her classroom. She says this is why she made the choice to be involved in the CLC on the topic of ADHD. She wanted to learn about specific strategies to support her students with characteristics of ADHD. She also wanted the opportunity to try out those strategies in her classroom and come back over time to discuss them with others. This is the type of professional development she considers most meaningful and supportive.

Prior Professional Experience

As far back as Connie can remember, she wanted to be a teacher. When she graduated with her undergraduate degree, however, she did not feel a strong sense of support from her family about her career choice. So instead, she began to work with the elderly as a personal support worker. She found, though, that the more she worked with the elderly, the more she wanted to be with children. Connie then began to work as an educational assistant in day care settings and pursued her ECE certificate. In one of the day care settings where she worked, parents of the children began to complain about their lack of trust in her ability to effectively teach and keep their children safe when they noticed that she walked with a limp. She is very quick to note that she felt completely competent in her role and that parents had absolutely no reason to doubt her. Despite this, she says, they saw the limp and they got nervous. In the end, “it was clear they didn't want me with their children.”
When Connie was pregnant with her second child, she was laid off from her job as a day care worker. Feeling as though the true reason she was let go from the position was her disability. On this basis, she sued the day care and eventually won a monetary settlement. Referring to her limp, she states, “this really goes back to the disability thing – they see that and then they think, oh she's not going to do anything; she's just going to go away – but I didn't.” Connie ended up using funds from her legal settlement to enter into a teaching degree program. Ultimately, she felt she would be able to do much more by working as a teacher than she could as an ECE in a day care setting. It is not surprising that she felt this way considering that public schools often offer more resources, support, and the opportunity to act more independently in the classroom. She says she continues to carry this earlier experience of discrimination with her:

I want to give people chances because I know what it's like not to be given the chance. They look at the limp and they say, “oh, you're dumb,” or, “you can't do the job.” But, yes I can! And it's the same for these children. They will succeed if they want to succeed and every child has the right to try.

This experience has obviously contributed a great deal to her teaching philosophy.

Eventually, Connie got her primary junior qualifications and began teaching in a kindergarten classroom almost immediately. After her first year of teaching, she moved to Hampshire Public School and had been there for 9 years when the study began.

**Personal Life Context in Relation to Diverse Learning Needs**

One of Connie's strongest elementary school memories was of teachers making assumptions about her because of her disability. As a child, she says, she was physically slower than her peers, but she still wanted to do what the other children did. Instead, she was often left out of physical activities. Connie says, “it's just not fair – I certainly didn't want to sit on the
sidelines. I was awkward, but I was strong and I still needed to be a kid – that's the bottom line.”

This memory has strongly impacted her expectations for her own students. She makes a conscious effort to have high expectations for them all.

When Connie was in Grade 7, she wasn't very social and didn't often engage with other students. She attributes this to how students perceived her because of her disability: “nobody encouraged me and nobody would play with me because they saw the limp.” Then one of her teachers began to spend time getting to know her and eventually made her manager of the volleyball team when she was in Grade 8. She remembers it as a very coveted and “honorable” title; more importantly, she remembers that this particular teacher taught her that she was a valuable person. She has always remembered this and says she uses this experience to guide her interactions with their own students.

**Teaching Context**

Connie feels as though good teaching comes down to one solid principle: every child needs to feel valued. She says, “it's one thing for a teacher to say, ‘oh, I value you and I love children,’ but the children have to see it and they have to breathe it.” This guiding principle is evident in Connie's teaching. She is warm, positive, and affirming. She is responsive to her students’ different ways of being, learning, and showing their knowledge. For example, Connie acknowledges that many of her students learn best through kinesthetic experiences. Throughout many of her literacy lessons, the students are often moving or listening to music and singing. Her instruction is certainly differentiated. She points out that individual students need particular kinds of support, some more than others. She says, “sometimes certain children need you to hold their hand, guide them through their process, where other kids just don't need it. You need different ways of instruction – to me it's common sense.”
During the year of the study, Connie was a Junior Kindergarten and Senior Kindergarten teacher. She taught a Junior/Senior Kindergarten combined class (JK/SK) in the morning. Students in this class ranged in age from 3 to 4. She taught Junior Kindergarten (JK) in the afternoon. Students in this class ranged in age from 4 to 5. For the purposes of this study, we focused on Connie's JK afternoon class of 22 students. Although none of Connie's students was identified with an “exceptionality” at the start of our study, she did have concerns about two of her youngest students. Her students were at such a young age, the majority of them tended to be impulsive and somewhat hyperactive. But relatively speaking, she had concerns about two of her students named Jason and Jennifer. She believed Jason was lagging behind academically due to late maturation. Jennifer was very inattentive, was having challenges connecting socially, and had difficulties retaining information. At the beginning of our study, Connie believed Jennifer had characteristics of ADHD. Six months later Jennifer was formally identified with the inattentive type of ADHD.

Knowledge and Understanding of ADHD

Connie entered into the study feeling as though she had a lot to learn about supporting students with ADHD. She stated, “I think there's so much more I can know and do.” Although she was already implementing supportive strategies such as repeating instructions, reinforcing with visual cues, providing extra support, and getting rid of distractions, she felt as though she needed to learn much more.

Connie received no prior training about how to support students with characteristics of ADHD during her ECE program, during her teacher education preservice program, or while in her role as a teacher. Furthermore, until she signed up to participate in this study, it had never been offered to her. She found this surprising considering she has had at least one student with
characteristics of ADHD in her classroom each year. Although she realizes that many of her
students exhibit some of the characteristics of ADHD at one point or another, she points out that
there are other children who exhibit these characteristics at an elevated level.

At the start of the study, when Connie was asked to rate her knowledge level about
ADHD and the kinds of strategies that are helpful for these particular students, on a scale from 1
to 10, she rated herself a 4 out of 10. She felt as though she had been implementing some good
strategies before her involvement, but as a result of her experience in this study, she felt she had
improved her understanding about ADHD and her teaching.

Response to the CLC

Connie entered into the CLC looking most forward to the opportunity to learn with and
from her colleagues. She laments that she and her fellow teachers have few, if any, opportunities
to meet and discuss topics related to teaching strategies and diverse learning needs. It is usually
only when a student is taken to “in-school-team” that colleagues come together to discuss
particular students and the particular strategies that might help them. It's interesting to note that
this meeting-of-the-minds kind of gathering only takes place once a student has reached a crisis
point. Connie realized the value of regular meetings with colleagues and wished it could happen
more. She says,

It would be great if we could come together in this [CLC] kind of meeting to talk
about students who may have an exceptionality, or a difference. We would realize
that other colleagues are going through the same thing and learn from each other.
This shared experience would help our teaching in the classroom.

Ultimately, Connie found great value in the way the CLC was structured. She particularly
appreciated that she and her colleagues were the ones who ultimately decided what components
would be included. She enjoyed being able to meet with her group members on a regular basis to learn about specific strategies and then being able to go back to her classroom down the hall and implement them immediately. In addition, she appreciated that they would come back together to talk about the ways in which the strategies worked or didn't work in their classrooms. She states, “we would get an idea and try it in our classrooms right away and then meet again, and have follow-ups. It was brilliant!”

Connie describes her time in the CLC as being a “night and day” experience. That is, her understanding about students with ADHD had changed completely. Most important, she feels she has a much better understanding of her students. She went from believing that students with ADHD could control their inattention and impulsive behaviors, to understanding that, for the most part, it's “something they can't help.” She refers specifically to her new understanding of the executive functioning and working memory difficulties as the much-needed “missing puzzle piece.” She admits she has a whole new understanding of what her students’ behaviors are telling her about what they need. She says, “I understand that the clipboard gets full and I need to break their work up. I'll give more small, short breaks during a literacy task, for example because I know my students be able to do more and learn more if I do.”

Connie admits that her level of patience and compassion for students with ADHD has also been affected positively as a result. Referring to Jennifer, who was identified as having ADHD in the middle of our study, Connie says, “now I know where she's coming from and one of my new goals, among other things, is to make sure this child is happy – I don't want her to struggle, I don't want her to feel different and I want to see her smile.” Not surprisingly, Connie also feels much more confident about working with students with characteristics of ADHD as a result of her increased understanding and new repertoire of strategies. She also feels as though
she could confidently mentor other kindergarten or primary teachers on the subject. She says the most rewarding part of the CLC experience was being able to put her new knowledge and understanding into practice and have a positive impact on her students.

**Case Three: Kathy**

Kathy is a first grade teacher who has been teaching for 18 years. She is deliberate, thoughtful, and wholehearted when it comes to her teaching. It is clear from spending time in her classroom that Kathy has created a fun, warm, and welcoming environment. Having had family members who have struggled within the school system because of their disabilities, Kathy is especially sensitive to her students who have diverse learning needs. Kathy has had a high degree of professional learning in the area of literacy teaching but she has not felt especially positive about prior professional development experiences in the area of supporting students with special needs. She is interested in professional development that gives her concrete strategies to use in her classroom immediately, and that provides follow-up support. This is the kind of professional learning that has been most meaningful to her.

**Professional Learning**

*Preservice*

Kathy received her teaching degree in the 1970s. She graduated with a Primary Junior certification from a 1-year consecutive teacher education program.

*In-service*

Kathy has participated in a number of professional development opportunities during the course of her career. Some of these workshops were mandated through her school board and some of them she attended voluntarily. Kathy does not enjoy workshops that are too theoretical.
Kathy is most interested in the type of professional development that will give her practical information that she can put into practice right away. Though she has found some of the workshops she has attended to be practical and useful, she has found that there is not always much sustained benefit because they are one-time-only experiences. She explains,

Sometimes they're so theoretical and you're inspired for the 2 hours that you're there, but then you get back to the real world of the classroom and there's no follow-up to these workshops so then they just peter out. You might try some other things, but then because there's no feedback and you don't get the chance to talk to colleagues about it, they often just disappear.

Having taught for a number of years, Kathy is less interested in professional development that focuses on broader teaching issues such as classroom management. She is more interested in professional development that is geared towards helping students with specific learning issues. Learning, she says, is much more meaningful when it happens collaboratively with colleagues. This is why she wanted to be a part of the CLC in this study.

**Prior Professional Experience**

Kathy knew very early on in her life that she wanted to be a teacher. Aptitude tests always pointed her in the direction of the teaching profession. When she worked as a camp counselor, She says, “I liked children and I liked the satisfaction of planning a program and watching them succeed at it.” If she had had the opportunity to go straight into a concurrent education program when it was time to go to university, she would have done this instead. However, concurrent programs were not offered at the time.

Kathy began teaching in the elementary grades in the 1970s immediately after she received her teaching degree. After being in the classroom for only 3 years, she left the
profession in order to go to South America where she lived with her husband for a number of years. Once back in Canada, she found there were no teaching jobs, so she began to work as a staff trainer for a computer company. As she explains, “I knew nothing about computers, but I knew something about teaching.” After a few years, Kathy had children and decided to stay home with them full-time. After 14 years of raising her children, she says, “I finally came back to teaching.” Instead of going straight into the classroom, she taught in a program called Reading Clinic. Reading Clinic is a literacy intervention program that provides supplementary instruction to students in small groups in Grades 2 through 8. It is a program for students who are experiencing significant difficulty achieving the expected provincial standards in reading, spelling, and written language. Kathy says she utilizes a lot of the strategies she learned during those 4 years when teaching students with learning disabilities in her classroom.

After 4 years of teaching Reading Clinic, Kathy says she taught “7 very happy years in kindergarten” and then moved to teach Grade one and Grade 2 at different times over the next 5 years. She was teaching Grade 1 when the study began. She has taught for a total of 17 years and has spent 12 years at Hampshire Public School.

**Personal Life Context in Relation to Diverse Learning Needs**

In thinking about her own experience as a student in elementary school, Kathy does not recall teachers differentiating their instruction in any way. She says, “I feel that they taught to the middle and high groups. I don't really know what the really low kids did but I feel like they would have been failed. They were probably isolated.” She recalls that students who had special needs or had different ways of learning were put into a class called the “Opportunity Class.” She remembers it as being something quite negative as students were completely separated and ostracized. She says, “I still remember that feeling – how awful that must have been to be in the
Opportunity Class. It's ironic that it was called an Opportunity Class because I felt they were given very little opportunity to learn.” Kathy has come to view patience, flexibility, and adaptability as key attributes of a good teacher. She says, “if they don't learn it in a way that you're teaching it, you've got to teach it in a different way. And you have to find strengths and teach to that.”

Kathy believes that having two nephews in her family who have had some challenges at school has greatly influenced how she teaches and supports students with special needs. She has one nephew who has ADHD. She says,

My sister was always heartbroken, always felt that the teacher was against her son and scapegoated him. I never observed my nephew in the classroom but I have a feeling probably to some degree it was true. She would mention one or two teachers who were fabulous with her son.

Kathy's other nephew began using a wheelchair when he was 9 years old. He was physically delayed and had a number of other challenges in school. Reflecting on the impact of these personal connections, she explains, “I think those two children impacted me greatly in realizing that one size can't fit all.”

**Teaching Context**

Kathy taught in a Grade 1 classroom with 23 students at the time of the study. Although none of Kathy's students had been identified with having ADHD, she felt as though at least five of her students had concerning issues of inattention. Kathy had one student in particular, David, whom she felt had a level of hyperactivity that was above and beyond the norm. She says, “I've taught for long enough, and I know how extreme it could be. David would stand out in terms of his hyperactivity.” She found him to be very fidgety and always out of his seat. On top of this,
she found that he was simply unable to sustain his attention on any task that involved writing. She says, “he sits there and he often just stops. He won't stay on even a simple task that he's capable of doing.” Ultimately, Kathy was very happy to learn how to modify her instruction to help him successfully produce more writing.

Kathy has had at least one student with characteristics of ADHD each year. She says, “I would say probably two a year – but for sure one at least.” Having students with ADHD is, she admits, “hugely, hugely” stressful. Reflecting on her effort to meet these students' needs and how this affects her personal life at home, she explains,

It's hard enough because as a teacher you worry about your kids. But with ADHD, you're in the shower and you’re thinking what am I going to do? And then you get mad because you're thinking why am I using up so much energy thinking about this at home when I'm trying to plan and program for the other 21. It's an inordinate amount of time sometimes.

She also feels stressed when she thinks about how disruptive students’ hyperactive and impulsive behaviors are in the classroom. She says,

Your lesson can just stop. So it's a huge stress. Because even sometimes if there's a really hyper child in your class they can be pretty funny, and it can be pretty exciting to watch for the other students. What's the teacher going to do with this? You know? So then you can lose a bunch of others. You need to figure out what to do with that child because if you don't, the rest of it just falls apart.

Kathy's routine is very tightly organized. Mornings tend to be dedicated to a literacy block for the first two periods. This encompasses shared reading, read aloud, and some modeled writing. By second term, students are also participating in reading groups. This can be especially challenging for students who have a difficult time sitting still and focusing. Kathy feels that with
the combination of her training in literacy development for struggling learners, her years of experience, and now her new repertoire of strategies from the CLC, she is even more equipped to meet her students’ literacy needs.

**Knowledge and Understanding of ADHD**

Kathy has had very little formal learning on the topic of supporting students with characteristics of ADHD. She finds it surprising that professional development on this topic hasn't been easier to access. She says, “every year we have kids with inattention and hyperactivity.”

Despite this lack of opportunity for learning, at the onset of this study Kathy felt that her knowledge and understanding about ADHD was rated at 6/10. She attributes this to years of experience with students who have had challenges, to professional reading and television programs, and to information parents and colleagues have given her over the years.

She feels her knowledge and understanding about ADHD was also propelled forward by the fact that her nephew was diagnosed with ADHD. She says, “my sister gave me books, like The Spirited Child, and over the years I would read them and learn.” She also recalls reading a little bit, “but not much,” about ADHD while completing her Additional Qualification courses in special education.

Though Kathy feels as if she had a number of general strategies before the study began, she was interested in getting some “workable strategies for [her] particular class,” and particularly for her student named David. She says, “if I could get one thing that would help me help him, that would be amazing.”
At the conclusion of the study, Kathy felt as though she had increased her understanding about the nature of ADHD quite a bit—especially about executive functioning challenges and strategies. She rated herself at an 8/10 as opposed to 6/10 when we began. Not surprisingly, Kathy felt as though she was already using a number of good strategies to begin with, but by the end of the study there had been a shift. She said, “I feel much more knowledgeable in how to support students with ADHD.”

When Kathy reflects on her understanding about students with ADHD during her training and compared to her understanding 10 years ago, she is forthcoming about how her attitude has changed quite dramatically. She says,

I know so much more now about ADHD kids. Looking back, I'm sure I was more likely to just isolate or even ignore, to sort of congratulate myself if they weren't disrupting my classroom. In the end—I can remember two kids in particular that my goal was just, they are just two kids out of 28—and I remember thinking, if they are not disrupting the whole class, then I guess that's okay.

With experience, Kathy had learned how to better support her students with characteristics of ADHD in their academic work as well as how to manage their behavior. She has learned this through her experience as a teacher in combination with her participation in the CLC. Despite the fact that Kathy feels better able to meet the academic needs of her students with characteristics of ADHD, she acknowledges that it also still takes its toll on her. She says,

It is one of the most energy draining experiences I think a teacher has. You spend an inordinate amount of time thinking about them outside of class—I do. You can, if you're not careful, put so much energy into their learning and managing them that I sometimes, if they're really hard, I can feel resentful about how much they take away from the other kids or if they sabotage my program.
**Response to CLC**

Kathy estimates that she may have had only an hour or so of formal PD on the topic of supporting students with characteristics of ADHD. She says, “it was lumped in with things I went to on autism, Tourette syndrome, and pervasive developmental disorders.” She remembers the topic of ADHD being more of an aside to the other topics; it was never the focus of the workshop. Kathy acknowledges there is a possibility that training on ADHD is available without her being aware of it. However, she imagines a lot of it would be theoretical and disconnected from practical issues in the classroom.

In terms of Kathy's participation in the CLC in this study, she was most excited about the opportunity to work in partnership with the same group of colleagues and over an extended period of time. She says, “it meant a lot to me that we were going to collaborate with our colleagues.” Throughout the study, Kathy often mentioned this as being the most powerful component for her. She says,

Typically you get the 2- to 3-hour PD sessions and then there's no follow-up after that. There was a chance to bring the same group of people back together and say, okay you've had a chance to put into practice what we talked about. Let's have feedback. What's working? What's not working? With us meeting every 2 or 3 weeks or so, it was great because we could come back and share what we had done. And if things had worked, we could talk about that. If things hadn't worked, we were able to voice concerns. So it was good I liked it.

Kathy also felt strongly about having the content for the CLC be based on what the teachers wanted to learn. She says having each of the meetings based on what they collectively asked for as a group enabled them to focus exclusively on what they needed to learn. She explains,
Asking us what we wanted to focus on was highly useful. It's the same usefulness as doing a formative assessment with students. Because if you find out they already know what you're going to teach, you don't teach it. So by you asking us what we most wanted out of it, it was the most useful it could be.

Kathy's goals for entering into the study included increasing her repertoire of strategies, having the opportunity to read recent articles and research on the topic, and lowering her stress level. She also hoped that she and her fellow CLC colleagues would continue to be resources for each other on the topic of supporting students with characteristics of ADHD once the study finished.

Six months after the CLC had formally ended, Kathy was in a new school year with a different group of students. Reflecting on the impact of her participation in the study, she felt as though she had met all of her goals. Furthermore, the benefits resulting from her participation in the study and PD had sustained. Kathy felt as though she had increased her repertoire of strategies, increased both her confidence in teaching students with ADHD and confidence in talking with parents about the topic. She felt confident that her new knowledge and understanding was not only benefiting her students with characteristics of ADHD but her entire class of students. She explains, “the strategies work for all kids, so I'm happy to continue to put them to work.”

As a result of her experiences in the CLC, Kathy was putting strategies into practice much more quickly in the year after the study and was connecting with parents earlier in the year about some of her concerns about her students. She also reports that she has more patience, compassion, and more reasonable expectations for students with ADHD because, as she says, “you helped us to understand the cognitive difficulties they have.” She admits that being a part of
the study and taking part in the professional development reminded her about what the ideal attitude toward students with ADHD should be. She says, “I think I needed reminding that it's never personal. They're not trying to undo everything that you're working hard to start in the classroom. I think I'm just a bit more patient with them than I perhaps was before we all worked together.”

**Case Four: Danielle**

Danielle had been teaching for 20 years when this study began. She was born in Québec city and grew up there. Her first language is French and she teaches in the French immersion program; during this study she was teaching Kindergarten for the first time. Danielle is the mother of three children ages 6, 8, and 13. When our study began, she was teaching in the mornings in an early immersion Senior Kindergarten classroom. At the end of our study she was a full-time teacher working in an early immersion Kindergarten class in the mornings and teaching core French in the afternoons. Danielle is very happy to have been at the same school for her entire 20 years of teaching. She lives in the same neighborhood as Hampshire Public School and feels strongly connected to the school community as a result.

**Professional Learning**

**Preservice**

Danielle studied biology at university and received her bachelor of science. Though she had initially been torn between a teaching career and the field of research, she took a job as a researcher in the area of science once she graduated. She found this to be unfulfilling because she spent most of her time isolated and away from people. She says within a few months of this
work, she had decided to pursue her teaching degree. Danielle completed a 1-year consecutive teaching degree with a focus in French.

**In-service**

Throughout the 20 years of her teaching career, Danielle participated in a number of professional development opportunities, largely consisting of workshops offered through the Board of Education. Most recently, Danielle completed a series of workshops offered through the Board of Education on the topic of reading and literacy. These workshops trained Danielle to be a literacy specialist within the board. She was the only participant who had not recently taken additional qualification courses offered through the Ontario Ministry of Education.

In the early stages of her teaching career, Danielle participated in professional development that was focused more on general teaching concepts. As she moved into her midcareer and became comfortable with the “basics,” she chose opportunities that would help her refine her approach to teaching. Having more years of experience has given her a better sense of what areas of professional learning she needs to focus on. As she explains, “I now have a better idea of what my specific needs are, where my strengths are and where my weaknesses are. I'm now interested in learning more specific things, like about ADHD. Sometimes you need something more specific for some kinds of students.”

**Past Professional Experience**

Danielle says she was originally certified to teach junior and senior (Grades 4–12) school. She began her teaching career as a Grade 6 teacher. She says, after a handful of years she got, “a bit bored of it” and a little overwhelmed by the preteen angst. She took the courses necessary to teach in the primary level and she has been teaching there ever since. For a number of years,
Danielle taught core French. This meant she was traveling from class to class and from grade to grade teaching French to a class of English-speaking students for 30 or 40 minutes each time. Up until the year of the study, Danielle had taught all of the primary grade levels except for kindergarten; this was Danielle's first year teaching kindergarten. The experience of working with such young children has been a very new experience for Danielle. She describes it as “a world of difference” compared to teaching the other grades.

**Personal Life Context in Relation to Diverse Learning Needs**

Danielle feels personally connected to issues related to ADHD. Her good friend has a son who has been identified with ADHD. She remembers he struggled academically for a number of his earlier years in school. She believes a lack of patience and understanding by teachers contributed to his difficulties in the classroom. She says, “he's always been very bright but he was disturbing the classroom, and maybe some teachers didn't deal with it the way they should have.”

Danielle's nephew also had characteristics of ADHD throughout his schooling. It wasn't until he was much older that he was formally identified. When he entered CJET (the Québec equivalent of Grade 13) he began to have a more difficult time. Perhaps because he was required to complete his work almost completely independently, he began to fail. She says, “he really struggled and he gave up and stopped going at some point – it was just terrible.” Though a psychologist advised Danielle's sister that her son had attention problems, it took a while for her to admit because she thought he had done so well throughout school up until this point. Eventually, she says, her sister acknowledged that he had always had difficulties organizing himself in the morning and getting ready to leave for school. She says, “it was from Grade 1 to Grade 12 – it was always a struggle to get him to go in the morning, but somehow he managed to
survive until he went to CJET. Eventually, he began to take medication for his inattention and it made a very big difference in terms of his concentration and his ability to manage. At the time of this study, he had entered into University and was doing very well. Danielle notes that her sister looks back with great frustration that there were some red flags, but the school did not pick up on them.

**Current Teaching Context**

When this study began, Danielle was teaching a class of 23 Senior Kindergarten students in a French immersion program. The Early Immersion Program in the school board where Danielle teaches begins in Senior Kindergarten. It offers 100% French instruction in the classroom until the end of Grade 3. All subjects are taught in French. English instruction is gradually introduced beginning in Grade 4 until it becomes a half-day program from Grades 6–8. All of Danielle students were beginning French instruction for the first time. As a result, she had a full-time educational assistant with her for the entire afternoon that helped her with almost all aspects of her teaching.

As is often the case with Kindergarten programs, Danielle incorporates a play-based program that includes a lot of free play built into the day. Educational centers surrounded the periphery of the classroom. Students had listening, computer, art, writing, and reading centers, to name a few. There were also some temporary centers which changed depending on the interests of the children. For example, at one point there was a theater or drama center, a post office center, and a medical center. In addition to free playtime, students sat in groups of four or five at tables, and spent a portion of their day having *carpet time* for instruction. Carpet time is when students leave their desks to gather as a group in front of the teacher on a rug or carpet placed on
the floor. Students began their day by sitting on the carpet; they often returned throughout the
day to hear stories, sing songs as a group, or to receive instruction.

Though none of Danielle's students had been identified with ADHD, she had concerns
about two students in particular who had great difficulties paying attention, staying on task, and
completing work. One student, Nicholas, was quite hyperactive and had a difficult time sitting
still. He was impulsive and constantly interrupted other students. He also had a difficult time
paying attention. In contrast, the other student Danielle had concerns about, Michael, was not
hyperactive or impulsive. She described him as someone who was quite inattentive. She says,
“he has very little focus and is very, very distracted. You never have a feeling that he is really
listening or focusing on anything.” As a result, he had been having a very difficult time
academically. As a result of his lack of focus and initiative, he required constant attention. Either
she or the academic assistant needed to be by his side and direct him step-by-step. If either of
them were to walk away, he would do very little. She says, “he needs that much support and
attention. He needs one-on-one the entire time.” Toward the end of our study, Michael's parents
had scheduled to have him assessed for ADHD.

**Knowledge and Understanding of ADHD**

Although Danielle had been teaching for 20 years, she had had no specific training in
how to support students with ADHD. This surprises her considering she recalls having at least
one student with ADHD in her class each year. Through her own professional reading and
because of her years of teaching experience, she feels she has learned a number of helpful
strategies. She says, “I don't know all the strategies but I think I try to do my best.”

She remembers one particular student from when she was a Grade 3 teacher. As is
common for students with ADHD, he struggled with both behavioral and academic issues. He
had a particularly difficult time with his writing. She says, on top of all of his behavioral issues, “he had very poor handwriting and very poor letter formation, no attention to spelling or any punctuation and very poor attention to details. He had a difficult time keeping his attention on anything.”

Danielle ended up implementing a number of supportive strategies for him. She used positive reinforcement, she gave him written reminders, paired him with another student and gave him a quiet space if he needed it. Not surprisingly, Danielle found these strategies helpful for mediating his behavior. She'd found them to be less supportive in terms of his academic work, particularly for helping him focus on his tasks. This is something Danielle continued to struggle with when the study began. She admitted she spent a lot of time worrying about the progress of her students and felt a great need to learn more strategies to help gain and keep students’ attention. She says, “sometimes you just feel helpless.” She admits that it is difficult for her to imagine not having a full-time assistant with her, especially because she has a few students who are so inattentive, they need constant attention to ensure that they are focused on their work.

**Response to the CLC**

At the beginning of this study, Danielle was most interested in learning about the neurological aspects of ADHD. She felt that having a better sense of the brain-based reasons why students have hyperactivity, inattentiveness, and impulsivity might help her to better understand her students with ADHD. Asked about her knowledge level about ADHD on a scale from 1 to 10 before our study began, Danielle believes she was at the lower end of the continuum with a self-rating of 3/10. She felt she was using good strategies with her students, but felt much more prepared and knowledgeable after participating in the professional development. Six months
after the PD was complete, she says she continued to feel better prepared to teach her students with ADHD. She rated her knowledge level as much higher with a self-rating of 8/10.

Danielle felt that it was the ongoing opportunities to meet and discuss students and strategies with her colleagues that most contributed to her learning. Having the opportunity to go back to her own classroom, attempt new strategies, and then return to the group to debrief was especially meaningful to her. She says,

We were able to say I have this particular child, and I think this is the problem, and what should I do about it? So, I think that was very reassuring. To be able to talk about specific children and specific strategies for those children and then go back to class and try them and come back again to talk about that – I really enjoyed that.

Although Danielle was very appreciative of learning new strategies, she also was happy to be reminded of strategies that she had previously been aware of but had simply forgotten over the years. This was one of the benefits of sitting with a group of teachers and discussing teaching strategies. She explains,

There are times when there are strategies that you actually knew about but for some reason forgot about. And someone in the group brings it back again and you realize you haven't used it in a long, long time and you think, my goodness I haven't done this but I'm going to bring that one back in, it makes sense.

With 20 years of teaching experience, it was still important to Danielle to have her teaching practices and strategies affirmed. She, along with the other participants in the study, noted their relief in finding out that other teachers struggle in the same way they do with teaching students with ADHD. She explains,
I think with ADHD students, the thing is, they do disturb your class. Obviously, and then there's much questioning of yourself. Is it me? Is it my communication, my teaching, my management? What is it? And obviously, when you're part of a group like this, finally it's great to see that what I'm going through, others are going through it as well.

Case Five: May

May is an early career teacher who was teaching a Grade 1/Grade 2 combination class. She was in her fifth year of teaching when the study began. This was her second year teaching at Hampshire public school. May is positive and enthusiastic and has a very calming demeanor with her students. This is especially helpful considering her class has many active and spirited students. As a result of having a few students formally identified with an exceptionality, May has a full-time educational assistant with her throughout the day. May found it particularly helpful to observe her colleagues and to be observed during the peer observations component of the CLC. She was inspired by seeing how other teachers successfully support and manage their students with ADHD and she found their suggestions for her to be invaluable.

Professional Learning

Preservice

May received an undergraduate degree in history and English. A few years later, she completed her Bachelor of Education in a 1-year consecutive teacher education program. She received her Primary Junior certification.

In-service

The majority of May's professional development experiences have been through additional qualification courses through the Ontario Ministry of Education. She completed a
media literacy course as well as three reading courses to receive her reading specialist qualification. She has also participated in on-site professional development in the form of Lunch and Learns at her school site. Lunch and Learns are lunch hour professional development workshops offered to teachers and organized by the school site. They are completely voluntary. She recently attended one on the topic of autism and found it informative. The nature of the type of professional development May engages in is changing as she gains more years of teaching experience. She explains,

I would say during my first couple years of teaching, it was all kind of classroom management and how to create a daily schedule and the basics or building blocks like that. Now I have moved on to more specific ways to support students like those who have Asperger's or how to use an EpiPen.

**Prior Professional Experience**

May began thinking about becoming a teacher much later than the other participants did. In fact, she took some time to be sure that it was what she really wanted to do. After graduating with her undergraduate degree, she saw a school flyer looking for volunteers to spend some time in classrooms. She was intrigued and decided to respond. Throughout her 3 years as a volunteer, she gradually began to think about going into the teacher profession. She remembers getting a sense of what it is like to be a teacher and what requires, and felt she had the right qualities. She says, “I thought, I like this and I think it suits me.”

Once receiving her Bachelor of Education degree, May taught in the primary grades at two schools before arriving at her present school. At Hampshire Public School, where she was teaching throughout this study, she first taught a Grade 6 Gifted class, then moved into a Grade 1/2 combination class the following year. It was her first time teaching Grade 1.
Personal Context in Relation to Diverse Learning Needs

May spent her elementary and middle school years as a student in the Catholic school system and then switched to public school for high school. When she thinks back to when she was in elementary school, she remembers it being quite monotonous. She says, “it was all kind of the same thing day in and day out – pencil, paper, and workbook. I don't remember getting a lot of fun stuff.” Though she does incorporate paper and pencil tasks into her curriculum, she makes a concerted effort she says, “to think about what [she] can bring to this subject or this area that will make it hands-on and more interesting.” She does not recall being in class with any students who had special needs, learning disabilities, or physical disabilities.

In fact, she feels that her volunteer experience in a small Grade 5 class for students with learning disabilities has had the most impact in terms of shaping and influencing how she works with kids with diverse learning needs. By observing the classroom teacher and how she interacted with her students, she learned about the patience necessary for working with students with special needs. She says, “you put yourself in their shoes and you try to do different things to make sure they understand what they're doing. You try to lessen the burden on them when they're doing their work.”

Teaching Context

May had 20 students and a full-time educational assistant in her Grade 1/Grade 2 combination classroom. Two students with special needs were in her classroom and an educational assistant was brought in to support them. May also had one student, named Michael, who was formally identified with having the combined type of ADHD and one other student, David, who had characteristics of ADHD. Although David was not formally identified with ADHD, he had had issues of inattention and hyperactivity that were creating some challenges
within the classroom. Both of the students in May's classroom who had characteristics of ADHD were in Grade 1. As this is a critical time for literacy learning, she was concerned about their literacy development. Both students were having difficulties in this area.

Having students with characteristics of ADHD in her classroom has affected the way May thinks about her curriculum and teaching. To begin with, she is always thinking about how her lessons will affect students with characteristics of ADHD. This is because she finds they are easily taken off task with too much or too little stimulation and distraction. As a result, she feels that it can be a delicate balancing act. She often reflects on how she can make literacy tasks more engaging and more hands on. She says, however, “I find that it's quite difficult because there are a lot of subjects to cover and a lot of them do involve paper and pencil. Trying to think up something for each thing is challenging.”

May admits she began the year feeling much more stress than any other year because she has students with ADHD in her classroom. In planning her lessons, her students with ADHD are always foremost on her mind. She says, “You don't know how they might react to something. They might find something boring and then they might yell “this is boring” and then you're at a loss for what to do. So you do keep it in the back of your mind as you're planning.” Their unpredictable behavior is what most concerns her. She says,

You have to always be thinking on your feet because some days things happen in an instant. This is how it is with teaching but more so with him [Michael] – just because it's physical and you never know when there's going to be a blowup. Sometimes you do and sometimes you don't so it's stressful.

At the beginning of the study, May was spending a great deal of her time and energy attempting to mediate Michael's behavior. In order to keep him calm and less disruptive, she
would often allow him to work at his desk while the other students were sitting at the carpet for literacy instructional time. She found this to be effective for managing his volatile behavior. She also believed it to be the best choice for trying to see that the other students’ learning was not affected by his disruptive behavior. May had concerns about this, however, because as a result, Michael would frequently miss out on lessons and assignment work; in order to make up for it, this work was often sent home as homework. This, she realized, was not an effective way for him to learn to read and write.

As the majority of May's students were still in the early stages of literacy development, literacy instruction was infused throughout the day. Much of May's instruction took place on the carpet at the front of the classroom. As Michael did not often participate in routines that required him to come to the carpet for instruction, he ended up missing out on valuable reading and writing instruction. Not surprisingly, his reading level was quite low.

**Knowledge and Understanding of ADHD**

May says she had “zero” prior training focused on supporting students with ADHD. May is surprised that she wasn't offered more training on supporting students with ADHD in her preservice program or since becoming a teacher. What she does know about ADHD, she has learned on her own. She feels she has been trying to fill in the gaps of her formal professional education herself. Towards this end, she had purchased a few books to do some reading in her own time. May searched the books for chapters on behavior management strategies. After reading a few relevant chapters, she began to implement an incentive strategy in the form of a point system for good behavior for Michael. When he receives enough points for staying on task, for not being disruptive, and for completing his work, he's able to trade those points for a reward. She says, “some days it works, and other days it doesn't. She often found herself quite frustrated
when trying to find the right strategies for her students with ADHD. On more than one occasion she resorted to googling ADHD to, she says, “just try and figure out the characteristics, what I could do in the classroom, and what changes I could make.” At the beginning of the study, May worried that she wasn't using the best possible strategies for her students.

May entered into the study feeling as though she knew very little about ADHD. She rated her knowledge level as 2/10. It is a topic that has always interested her because of how much having students with ADHD in her class impacts her teaching, but she has not had the opportunity for formal professional learning in this area. At the conclusion of the study, May felt as though she had increased her knowledge and understanding about ADHD to a 7/10. Her confidence level in her ability to support her students appropriately had also increased from a 4/10 to a 7/10. Having had the experience of having a student with ADHD and others with characteristics of ADHD in her class this year has also contributed to her confidence in being able to properly support students who may enter into her classroom in the future.

**Response to the CLC**

May says she was very happy to commit the time it would take to participate in the PD group because she wanted more tools and strategies for supporting her students with ADHD. She was also very interested in an experience that would be ongoing as opposed to a short workshop type of PD. Describing these as not effective, she explains, “in a one-off workshop you listen to it and you take it in, but really, I don't know how much you revisit the material.” Having the opportunity to learn over time was appealing to May because it gave her opportunity to focus more deeply on issues and strategies. She felt this was much better than the usual experience of feeling rushed to learn everything all at once and ultimately feeling overwhelmed.
May was also interested in having opportunities for constructive feedback. May says she wanted to participate in this type of PD with colleagues because I wanted to “figure out what I was doing right, and figure out what I could be doing better.” She wanted to gain some strategies to help her manage Michael's behavior in particular. The “big piece” for her was getting Michael to the carpet for literacy instruction and then back to his desk to work on his reading and his writing. Before May learned some helpful strategies, Michael rarely agreed to come to the carpet for instruction. It was also rare to observe Michael in academic work. Instead, he could be observed playing cards, playing with cars and trucks and doodling.

Six months after the CLC meetings had finished, May felt as though the training had a much more lasting effect than the traditional kinds of workshops. She was very happy to learn about the characteristics of ADHD, and the kinds of strategies that were helpful. It was the discussions with her colleagues, however, that she found most powerful. May found it particularly helpful to discuss and hear about what the other teachers in the group were trying in their own classrooms and about what worked, what didn't work, and why. She says, “I can remember talking about certain strategies last year that I can think back to and remember. Even if I didn't try it I know that Kathy tried this last year and it was very useful and I'm now trying that in my next class.”

May feels as though she reached her goals. She says, “prior to participating I didn't know a lot. I wasn't sure if what I was doing was correct and I was kind of at a loss of what to do. Now, coming out of it, I know there are other strategies I can try and can directly apply them in my classroom.”

As was the case with the other participants in this study, May felt very relieved to find out that she was not the only teacher feeling challenged and overwhelmed by having students
with ADHD in her classroom. She says, “it was really great because it gave me a chance to see and hear about the fact that other teachers are also going through this.” Having the opportunity to participate in peer observations was also very helpful for May. By having the opportunity to observe another teacher with students with ADHD, this gave her some insight into how to gain better control of her classroom. It helped her to consider what she might do differently. She says, “it was really good to see because she had very good control and I thought about what I was going to do differently. It made me think about some of the things that didn't work.”

The opportunity to learn about the neurological aspects of ADHD has greatly improved May's understanding and her compassion for students with characteristics of ADHD. She says,

I understand more about what they're going through and it makes me aware of what I need to do as a teacher. Knowing what causes them to react or act in a certain way makes me step back and think, you know what? They're not doing it because they're being vindictive. And you need to think and put yourself in their shoes. It makes me think now, “Am I making this too hard? Is that why he's being disruptive? Or is that why he's going to lash out because he can't do it?” So it has really made me stop and think.

May feels as though her participation in the CLC is vicariously benefiting other teachers who did not participate. This is especially the case for the teachers who will be getting her students in the next school year. She says, being able to say, “this is what he's like and these are the strategies that I've tried and were helpful or these are the strategies that didn't work for him,” is incredibly helpful for the next teacher. Also, May admits that if it were not for the accountability of the group, she probably would not have done the reading she ended up doing. She says, I know myself – I wouldn't go out and have looked for the articles myself.” She found this very useful.
May feels that her students have benefited from her participation in the CLC. She feels as though her students are feeling success earlier on as a result of her trying new ways of teaching and managing their behavior. For example, she has noticed that one of her students is much more productive in his work because she is shortening the amount of work he is required to do at one time. She says, “if there are seven questions, for example, he'll do three to begin with.” By chunking his work and allowing a break in between, May is giving him an opportunity to feel success without being overwhelmed by the amount of work he needs to sit still for. This is one of the strategies she learned in the group. Interestingly, although May acknowledged that having Michael work on the computer helped him to stay focused, she became concerned when the other students felt as though this was unfair. As a result, May stopped giving him this opportunity.

May acknowledges that having gone through the training has lowered her stress level when thinking about supporting students with ADHD. Although she does acknowledge, “even with that kind of knowing, it's still stressful.”
Chapter 5:
Cross Case Analysis and Discussion

Introduction

The data from this study certainly suggests that the participants’ literacy teaching, particularly of students with characteristics of ADHD, was positively influenced by their participation in the CLC. Participants gained valuable knowledge and understanding of the nature of ADHD, the possible literacy challenges for students with characteristics of ADHD, and teaching strategies to support them. The knowledge and understanding the participants gained through this voluntary, collegial, on-going form of professional development led to greater compassion for students with characteristics of ADHD experiencing literacy learning challenges. Greater understanding and compassion led to increased motivation to learn about and employ supportive literacy teaching strategies. When the teachers observed their students responding positively to these strategies, their motivation was reinforced and they began to view their role as literacy teachers differently. Moreover, they began to see themselves as teachers who were capable of effectively teaching these, often times, struggling literacy learners. As a result, the participants’ confidence levels and sense of self-efficacy as literacy teachers were elevated and they reported a significant reduction in their levels of stress.

In this chapter I explore three themes that arose through a cross-case analysis of the five individual case studies. In the first theme, I explore how the participants’ literacy teaching was positively influenced by their participation in the CLC. In the second theme, I explore the elements of the CLC process that supported and promoted their professional learning. The final theme investigates the personal and contextual factors which shaped the participants’ experience in the CLC. Within each theme, the findings are analyzed and situated within the literature.
Finding #1: Participants’ Literacy Teaching Was Positively Influenced by Their Participation in the CLC

As a result of their participation in the CLC, the participants’ literacy teaching practices were positively influenced. Participants not only gained more knowledge about supportive strategies for their students, they also increased their knowledge and understanding about the learning challenges associated with ADHD. This led to increased compassion for students with characteristics of ADHD. With greater understanding and more compassion, participants developed a new understanding of themselves as literacy teachers and became more supportive in their literacy teaching. Teachers also reported increased self-efficacy and lower levels of stress related to teaching students with characteristics of ADHD.

Greater Knowledge

As a result of their participation in the CLC, teachers reported that they increased their knowledge base about ADHD and about supportive strategies for teaching literacy to students with ADHD. This is in keeping with research that has found that when teachers participate in professional development, they are likely to increase their knowledge about the topic of focus (Bransford et al., 1999). Teachers in this study reported new knowledge related to the nature of ADHD, its causes, how it is manifested, and how it affects student behaviors and experience in the classroom. They also reported an increase in knowledge about strategies for this population. As Loucks-Horsley et al. (2010) note, however, effective and successful professional development must go beyond just enhancing teacher knowledge; it must support translating newfound knowledge into practice. For the teachers in this study, knowledge acquired through the interactive, and supportive nature of the CLC contributed to a shift in their ideologies and then a shift within their practice. Participants reported greater understanding of and more positive
feelings towards their students. In particular, all of the participants reported feeling more compassion towards students with characteristics of ADHD. This ultimately led to different ways of interacting with and instructing them, particularly in the area of literacy teaching. The importance of this cannot be underestimated, considering researchers found that the impact of teachers’ expectations, attitudes, and perceptions can be a major determining factor in whether students with ADHD are successful or not (Brophy & McCaslin, 1992; Hudson, 1997).

**Greater Understanding**

Each of the participants reported that it wasn't until they were in the midst of the CLC that they realized how much they did not know about ADHD and the extent to which the cognitive challenges sometimes associated with ADHD could affect their students’ literacy learning. As their understanding increased, their discourse within the CLC meetings began to shift from discussing details about ways to respond to students’ negative behaviors to a more weighted focus on ways in which they could respond to students’ literacy learning challenges. This occurred because they began to have a more complex understanding of their students’ way of learning, of the kinds of strategies that could address their students’ needs, and how to use teaching strategies to positively affect literacy learning. With new knowledge and understanding, participants began to focus more on specific strategies and environmental changes that would address students’ literacy challenges directly. The following short exchange between two of the participants in their first session together is illustrative of participants’ tendency to focus on student behaviors as the underlying challenge rather than their students’ learning difficulties:

*Wendy:* It's the four or five kids that I have that are really hindering the program now, and other children are noticing it and calling on it. So I need some strategies that I can use in the classroom that can not only benefit me but benefit the other students because it's not fair to them that their learning is
being disturbed by this behavior. It's the same four or five kids who are always causing it because of their behaviors. So I need strategies.

Connie: I couldn't have said it better than my colleagues. But on top of what they've said, is that there's a fine line between dealing with their behaviors and then doing things like giving them extra time or accommodating them. We have to deal with the behavior, right?

Throughout the majority of the conversations in early meetings, participants’ concerns centered more on student behaviors as the previous exchange shows. This is because prior to their participation in the CLC, participants viewed students’ behaviors as the most significant barriers to learning. This is not surprising, considering studies which have surveyed teachers’ beliefs about and attitudes toward students with ADHD (e.g., Barbaresi & Olson, 1998; Jerome et al., 1994; Sciutto et al., 2000) found they hold incorrect beliefs and understandings as a result of a lack of professional learning in this area. None of the participants in the study had had opportunities to have training on the topic of ADHD. As participants learned more about some of the more significant barriers to learning for students with characteristics of ADHD, their conversations focused less on how to reduce disruptive behaviors and more on ways to promote learning and academic progress. The following dialogue amongst the participants 4 months into the CLC illustrates this new focus:

Danielle: Do you remember last week when we were talking about directives and using language to make sure they aren't doing things they shouldn't be doing so they would pay more attention on their work? I tried the directive and it just didn't work at all. [My student] was still, way, way off task while I was teaching a literacy lesson in circle.

Wendy: What if you give him a squeeze toy or something to play with while you're doing circle?
Danielle: I could try that, but I think it's just going to get out of hand. He's going to start throwing it.

Connie: Where does he sit when he's on the carpet?

Danielle: Well, we try about everywhere. As you can see the carpet is surrounded by cubbies.

Kathy: it's surrounded by distractions, regardless of where they sit.

Wendy: Makes it tough for him to attend to your lessons if there are lots of distractions around.

Connie: I wonder if learning the French is an issue as well.

Wendy: If you think about the working memory and having to not only listen to a direction but then also having to, in their mind, translate because at this point they're still sort of translating, right?

Danielle: Absolutely.

Kathy: So that's a lot of working memory, having to use their working memory which could be challenging.

Connie: I would try removing the distractions around your little ones when they're in the circle and give just one direction at a time. Break them up.

Wendy: Right, and repeat. Make sure he understands your one directive or direction before giving another one. I'm guessing he wants to focus on the right thing. He probably just needs more help.

This last exchange illustrates how participants’ kept student learning as a priority in their discussion. Previously, they would likely have focused more on how to stop the student from
engaging in unwanted behaviors; how this was affecting his learning would likely have been a much smaller part of the conversation.

When teachers began to understand that ADHD was more complex than they first understood, their responses to their students’ behaviors and challenges shifted. Though they understood the importance of reducing disruptive behaviors, they now had a better understanding that this alone would not ensure learning and academic progress. As research studies have shown, teachers must address both potential cognitive and academic skill weaknesses and not just focus on the reduction of behavioral issues in order to improve literacy outcomes for students with ADHD (DuPaul & Stoner, 2003; Rowe, Pollard, & Rowe, 2005). This is what both Wendy and Kathy were suggesting for Connie.

**Increased Compassion**

Connie, May, and Wendy all reported more positive feelings towards their students with characteristics of ADHD. These more positive feelings came after they became more fully aware of some of the cognitive challenges associated with ADHD and after learning more about how to address student literacy challenges directly through instructional and environmental accommodations. Specifically, when they learned about students’ potential weaknesses in their executive functioning, and the central role these play in literacy success, they reported a newfound understanding of their students’ ways of being. For instance, when referring to one of her students who had previously caused her some great frustration, Connie commented,

I'm just much more patient and understanding and I realize now she can't help the way she is. She's daydreaming and she's not focused because she can't focus on many things at a time. I now think about what I can do to work with her inattention. That's different.
Wendy shared similar sentiments:

I think I don't jump to conclusions as quickly with my students with characteristics of ADHD. I set high expectations and I still expect them to be able to do things but I probably have more of an understanding and patience with them now that I have a better understanding of what their needs are and how to meet them. I think I'm more compassionate towards them also.

May felt that having a more in-depth understanding about ADHD and the possible cognitive issues often associated with students who have characteristics of ADHD, helped her to “stand in their shoes.” She said,

It kind of makes you step back and think, “You know what? They're not doing it because they're being vindictive.” I think I understand more of what they're going through and the reasons why they react or act in a certain way. So, knowing that does bring understanding. It makes me aware of the fact that I do have different strategies that I can use.

Although Kathy didn't feel as though she had any major shifts in her attitude, she did feel her reactions to her students had shifted because of her experience within the CLC. Six months after the PD had finished, Kathy said,

I wouldn't say my attitude has really shifted. I was just reminded about the ideal attitude and what it should be towards these kids. I think I needed reminding that it's never personal. They're not trying to undo everything that you're working hard to start in the classroom. I think I'm just a bit more patient with them than perhaps I was before we all worked together. I must say one of my students this year is quickly exhausting me. I find he presses all of my buttons so I need an attitude adjustment sometimes with him. Thinking back to what I've learned helps.
Despite the fact that students with characteristics of ADHD could still cause Kathy some distress in the classroom, her newfound understanding of her students seemed to pave the way for new strategy implementation. She said,

I have to say the idea of the working memory as the clipboard being full has been very useful to me and helping me understand and visualize these kids. I find myself thinking, okay so-and-so's clipboard is now full. Stop adding anything more because he's now in overload. This is likely why he's acting out or just sitting there doing nothing. So I think I have a more reasonable expectation for these kids with ADHD because I now understand them better, especially the cognitive difficulties they have.

Although Kathy and the other participants had always taken the time to think about ways to adapt their literacy instruction to support their students’ diverse needs, they were more likely to implement adaptive and inclusive strategies as a result of acquiring a better understanding of their students with characteristics of ADHD. Research supports this finding. When teachers have a better understanding about ADHD, they are more willing to make instructional changes for their students with these challenges (Reid et al., 1994; Vereb & DiPerna, 2004; Zentall & Javorsky, 2007). This is important considering this willingness to adapt is likely to positively impact student outcomes (Zentall & Javorsky, 2007).

Furthermore, as Saphier, Haley-Speca, and Gower (2008) suggest, of all of the things that are necessary for student learning, nothing is more important than the teacher and what that person knows, believes, and can do. There is also strong evidence that teachers’ beliefs and dispositions about teaching, learning, and students have an effect on student learning (Mendro & Bembry, 2000; Muijs & Reynolds, 2001; Sanders & Rivers, 1996). For each of the teachers in this group, their understandings of their students increased. Each of the teachers believed that
this new understanding positively affected their literacy teaching practice and their students’ literacy learning. As May remarked,

Because I'm aware of what they're going through and I know now how to modify to suit their levels, I think they're feeling more successful early on. I also think they are able to do more because I'm trying different things to support them.

**Shifts in Literacy Practice**

As we have seen, through their participation in the CLC teachers increased their knowledge about and understanding of their students with characteristics of ADHD. They had a deeper awareness of their students’ literacy learning needs, and how to better support them.

When participants were asked about their specific learning goals for the CLC, the area they placed the most priority on was literacy teaching. Throughout the CLC meetings, participants’ discussions naturally came to center on how to support students in their literacy learning. This is not surprising considering the foundational nature of literacy (Wade-Wooley, 2011) and because many students with characteristics of ADHD struggle in reading and writing tasks (Martinussen et al., 2005).

As previously outlined, teachers began to understand ADHD and its effects on literacy learning as much more complex than they first understood as a result of their participation in the CLC. By learning more about ADHD and its potential educational implications, participants gained a better understanding of the factors that influenced students’ literacy learning – both in terms of the ways their students learned, and in the kinds of instructional strategies that supported their students best. Participants reconceptualized their understanding of themselves as literacy teachers. As literacy teachers, they now saw it as their role to consider working memory, executive functioning, and processing speed as they planned and delivered their literacy lessons.
This has implications for any student with weaknesses in working memory. Studies indicate that children with working memory deficits, regardless of whether or not they have ADHD, tend to perform worse on tests of academic achievement than those students without such weaknesses (Gathercole & Pickering, 2000). By having a better understanding of their students’ way of thinking and learning, they were more able to knowledgeably choose the appropriate strategies to respond to their students’ literacy needs. They did this through their academic instruction, through how they approached student behaviors, and how they set up their classrooms. As Danielle said,

The PD has allowed us a better understanding of children with ADHD from the inside out. I now start with a much more profound understanding of the child and then go from there in thinking about the kinds of class activities and literacy instructional practices that are going to be relevant for him or her.

**Literacy instructional strategies**

Before entering into the study, each of the participants endeavoured to offer differentiated literacy instruction in response to their students’ unique needs. They reported a range of ways they adapted and modified their instruction for their students with diverse learning needs, including those with characteristics of ADHD. Each of them, however, reported that what they learned through the CLC further influenced and improved their inclusive practices related to literacy. As Kathy commented, “Participating in our CLC on ADHD has influenced how I teach literacy because I'm always keeping in mind my new understanding as I think about my literacy block and my teaching.”

In particular, participants found it helpful to learn about how students’ reading and writing skills can be affected by executive functioning challenges such as weaknesses in working
memory and processing speed. This helped them understand why their students may have been struggling. It also gave them the information they needed to respond more directly to their students’ specific needs. For example, participants had concerns about their students’ weaknesses in writing. Many of their students had low productivity and accuracy in their writing tasks. As is typical for students with characteristics of ADHD, they had a very difficult time communicating their thoughts on paper (Rief, 2005; Martinussen et al., 2005). In fact, in their study on learning problems in students with ADHD, Mayes et al. (2000) found that written expression is the most common learning problem among students with ADHD. This is because it involves the integration and often simultaneous use of several skills and brain functions such as organization, spelling, fine motor, planning, self-monitoring, memory, and language. These are all often areas of challenge for students with characteristics of ADHD (Berninger et al., 2002; Mayes et al., 2000; Rief, 2005; Martinussen et al., 2005).

Participants came to understand literacy learning from a new perspective. They came to understand the importance of executive functioning and working memory in literacy acquisition. In order to learn to read and write, all students must utilize their executive functioning to self-regulate their learning process. Weaknesses in these processes can make literacy learning more difficult and act as a barrier for many students with characteristics of ADHD (Tannock, Purvis, & Schachar, 1993). Before understanding the central role executive functions play in literacy success, it was easy for teachers to misinterpret students’ lack of attention to their work as a choice rather than a possible indication of the need for a different kind of support. This is illustrated in a comment made by Wendy early on in the CLC process. During the second CLC meeting, she describes the frustration she feels when one of her students with characteristics of ADHD rarely writes more than a few words. Wendy said,
He will try and find the fastest way out of getting his work done. So, for example, they were doing descriptive paragraphs. So for his paragraph, he came to me and said I'm done. It was about half of what was required in terms of what we were going for, and his paragraph was just a series of words just like two or three words, like dislikes cats, lives on Mars. It wasn't even sentence structure. And he said, “I'm done.” Like, he wasn't doing any more, he was done. I said, well that's not what you were asked to do and, so for him, he just got really mad at me and just stood there and kind of glared and I said you can stand and choose to not do it or you can get it done at school or it will become homework. And so once it becomes homework he gets even more angry because I'm sending his work home with him to do at home. So it's like a kind of never-ending struggle. He has these behaviors where I tried to ignore as much as I can ignore, but at the same time it comes to a point where it's like enough is enough. It's like, why?

You can almost hear Wendy pleading to understand why her student would not or could not produce more than just a few words – especially because she had spent a great deal of time in pre-writing activities to help inspire, motivate, and prepare her students to compose their stories. What Wendy and the other participants learned through the CLC was that as a result of weaknesses in executive functions and working memory, students with ADHD often have a difficult time organizing and planning their writing, composing stories and constructing their written sentences, writing legibly and accurately (Berninger et al., 2002; Martinussen et al., 2005). Due to challenges in coming up with what to write and how to express those ideas, students often resisted writing. This was the case with Wendy's student who would typically only write a few words or sentences. Participants learned that they needed to address their students’ academic deficits directly by supporting executive functions, including working memory, through modified instruction. One of the ways they could do this was to help their students with both the transcription aspects of writing and the composition process.
Six months after the CLC formally ended, Wendy explained how her language unit on comic strips was a response to what she learned in the CLC. She provided an alternative way for students to express their thoughts and ideas.

My boys with ADHD loved it because it was right up their alley. It wasn't involving a lot of writing, because they could draw and they could add written details to it. But they still had to really think of the process of how it was going to work. To this day, I still hear them begging me, “Please can we do comic strips?” They were totally engaged and wanting to do it – and they were phenomenal at it. I think they loved it because they had the freedom of not having to write a full page at a time. It's short, little bits of information that they don't have to be overwhelmed by. Because I just find with the ADHD kids that picking up a pencil and actually writing for some of them is such a barrier. If they don't have enough of a focus or if their clipboard is overloaded, they just don't know where to start. So with the comic strips it was simple enough that they knew they could also use pictures to tell their story. It was amazing.

Wendy learned why it may have been such a struggle for her students with characteristics of ADHD to write and she came up with creative ways to have them show their knowledge and ideas.

For Kathy, whose literacy teaching was also greatly influenced by her newfound understanding of how to support her students, there was a similar shift. She said, “I now keep the image of a clipboard being full in my mind as I consider my lessons and my instruction.” In response to this understanding, Kathy keeps her lessons short and full of visuals to help increase the likelihood that her students will not become cognitively overloaded. Kathy ensures she provides highly explicit strategy instruction for reading and writing lessons. She understands the
importance of supporting her student specific needs, because she says, “You worry about the child who in a 25 minute writing block will write three words only.”

As well, Kathy understands that students with characteristics of ADHD often have a difficult time following and remembering directions and initiating their work. Being reminded of this through the CLC has shaped how she sets her students up for success. Six months after the PD process had finished, she explains,

The lasting image – though it's not the only one – but the best thing for me to visualize is the clipboard being full. I think I may have known that before, but I have a visual image now. They're not trying to bug me; they're not. It's just that they're done. Of course, they're going to lose everything if the clipboard is full. So now as I send them off to begin their work, I make sure that I sit with the ADD type students first, to make sure they can repeat the instructions, to model the task, and get them started. If necessary, I break the job into small chunks and check in regularly to see if they're on track.

The other participants also reported a range of teaching strategies that they employed to support students with characteristics of ADHD as a result of their engagement with the CLC. For example, 6 months after the end of the CLC Danielle listed a wide range of strategies she continued to use,

I break up tasks into parts and make sure that [the students] know what to do by asking them to re-tell the steps...[I also] hide a portion of the page to allow greater focus on one part. I have more active hands-on activities and enquiries, more natural and inquiry-based writing activities to increase engagement, more one-on-one time, and more fine motor skills activities to improve penmanship.

Research has shown that these types of instructional strategies have been found effective in facilitating on task behavior, productivity, and/or academic success for students with ADHD.
(DuPaul & Eckert, 1998; Gardhill, DuPaul, & Kyle, 1996). They are particularly beneficial for children with reading and behavioral difficulties (Martinussen et al., 2005). Significantly, researchers found these effective instructional practices are also considered to be best practices for all students (Jordan et al., 2009; Martinussen et al., 2005). As Kathy remarked in her final interview 6 months after the PD process had finished, “The great thing is that these strategies that are effective for kids with ADHD are also so good for all of the kids, so I'm happy to put them to work.”

**Strategies for behavior**

Participants also reconsidered how they responded to students’ behaviors when engaged in literacy learning activities. In many ways, they reconceptualized their understanding of the behaviors of their students with characteristics of ADHD. Participants began to think about certain conditions, settings, activities, or events that could trigger misbehaviour, which along with learning challenges would be a further obstacle to literacy learning. As Martinussen et al. (2005) found, it is important for teachers to consider that,

> An increase in a child's overt behavioral symptoms may be linked to a specific learning context and may be a reflection of the mismatch between the demands of the context and the abilities of the student to cope with those demands. (p. 64)

By being aware of common triggers, often called antecedents, teachers were able to become more proactive in making adjustments so they could better support their students’ literacy learning and prevent or significantly reduce the chance of behavior problems occurring. As May commented, “I think now, am I making this task too hard? Is that why he's being disruptive? Is he lashing out because he can't do it?” Thinking about what their students’ behaviors were telling them about what their students needed, helped the teachers be proactive in setting their students up for more successful experiences within the literacy lessons. As Martinussen et al. (2005)
found, in addition to making instructional choices that optimize student learning and engagement, children with ADHD also benefit from a proactive approach to behavior management.

**Routines**

Each of the participants became more proactive and conscious about setting up routines that would help students be more engaged and attentive during literacy lessons, and while reading and writing independently. For instance, knowing that students with characteristics of ADHD are more productive and more attentive when they have opportunities for activity, Kathy ensures that her literacy lessons are interactive so that, “children have a chance to get up and participate.” She says, “In fact, if I notice that some of the students are disengaging during instruction, then I'm quick to give the whole class an exercise break.” Wendy has also come to appreciate the value of giving her students opportunities for movement. Six months after the PD had finished, she said,

> Because of what I learned in the CLC, I incorporate more things into my program that maybe I took for granted in the past, like DPA which is daily physical activity. I used to just tell them that going up and down the stairs all the time to get to class was their DPA. Whereas now I actually physically put it into our schedule for the days where we don't have Gym. They're more likely to get rid of that energy that way. They become more focused and look forward to it. I think getting out and running around helps them in terms of their focusing in class and I think incorporating that into my program has really benefited my students.

Intuitively, participants knew the importance of keeping their students active. Within the CLC, they were reminded of the benefits of this. In fact, preliminary studies have found that exercise improves executive functions (Davis et al., 2011).
Improving executive functioning

While participants modified their instruction in ways that would support executive function in their students, they also introduced strategies to help improve executive functioning. Specifically, participants were interested in helping students improve focus and attention as well as regulation of their behavior during instruction and tasks. Along with many other strategies introduced as a response to this interest, mindfulness awareness exercises were introduced as a way for participants to help promote a heightened state of attention and behavioral regulation in their students. A common mindfulness exercise, utilized by the participants, involves directing students' attention to their breathing, or following the sensation of their bellies rising on the in-breath and falling on the out-breath (Flook et al., 2010). Wendy found this strategy to be very helpful and, she has implemented it into her daily schedule. Six months after the PD had finished, she considered it one of the most helpful strategies she had learned within the CLC.

Right after the meeting where you introduced it to the group, I decided to introduce it right away. And I didn't know what to call it, and the kids came up with calling it a Peace Moment. So we have our little peace moments that I need, and they definitely need. At first they got a little silly, and still sometimes, they get a little silly. But the practice of doing that has created an opportunity for them to de-stress, to focus, to calm their mind, and calm things around them. They do belly breathing. They put their hands on their belly and we talked about taking in deep breaths and making your belly like a balloon and blowing out. And they actually requested. They'll say, “Can we have a Peace Moment?” So that actual experience of incorporating that into the class, I wish now that we had been introduced earlier in our inquiry. I've actually had one or two parents say that it's great because the kids have talked about it, and they enjoy it, and it helps them with focusing and listening too.
Kathy also implemented mindfulness practice and found it to be supportive. Unlike Wendy, however, Kathy did not introduce this strategy to her students right away. In part, it was because she felt “a bit nervous to start using it because I think I worried I would introduce it wrongly and it wouldn't be effective and I would miss out on this wonderful tool.” Because mindfulness exercise was introduced as a strategy in the final CLC meeting, participants did not have an opportunity to formally come back to the group to report back and get feedback as they implemented it. It wasn't until the beginning of the next academic year, when the school social worker was interested in conducting a mindfulness lesson in Kathy's class that Kathy introduced it to her students. She says,

> When [the social worker] came in and did her first group lesson and I saw how she used it, and then I heard Wendy speak about how she was using it in her class, I thought, “for heaven sakes, Kathy, just start. Keep it simple.” And, of course, it's working beautifully.

Support from the school social worker, Wendy’s report of the success of mindfulness practice in her class, and re-reading an article she received within the CLC all combined to help support Kathy as she began to implement it on her own. She says,

> I use it as you told us, and the article you gave us. We just begin with sitting up, and I get them to be aware of their breathing. So they do feel their bellies rising and falling. Then we have them find their space and they lie down, and then I ring the bell. We do it two or three times. As soon as they see the bell now, they like it, and that helps them right away to calm down.

> Although Kathy found mindfulness practices helped to calm and focus her students, she noted that her student who had the most trouble sustaining his attention had the most difficult time focusing within the activity. Still, she said, “He does buy into it mostly, so maybe over time
it will help him, especially when he sees that his peers buy into it.” Research in this area has illustrated the benefits of mindfulness practice for students with characteristics of ADHD. In their 2010 randomized control study with 64 second and third grade students, Flook and her colleagues (2010) found participation in a mindful awareness program, that included mindful breathing, was associated with improvements in behavior regulation, metacognition, and overall executive functioning. In general, they found it particularly beneficial for children with executive functioning difficulties to be introduced to mindfulness practices (Flook et al., 2010). In this study, students who had the most difficulties with executive functioning, benefited the most. Although Kathy, Wendy and the other participants were not considering executive functioning specifically, they commented on the effectiveness of mindfulness to calm their students and help them retain focus at least for a short period of time after participating in the mindfulness practice. All of the participants noted mindfulness practice as particularly helpful and considered it to be a strategy they would continue to use within the classroom for all students.

**Increased Self-Efficacy**

Teachers reported feeling more confident in their ability to meet the needs of their students with ADHD as a result of their experience in this CLC. Having a newfound understanding of the literacy implications of ADHD in combination with having the right toolbox of literacy teaching strategies to respond to their literacy needs, enabled teachers to feel confident in their ability to support their students’ literacy success. In speaking about how the CLC experience contributed positively to her level of confidence and her ability to support her students, Danielle remarked,

I really feel much more prepared for my students with characteristics of ADHD. I certainly have a fuller picture and I have some great strategies to use. I also
believe this can help me with more of my students as well. They can all benefit from what I've learned.

For Wendy, having more knowledge about the literacy implications of ADHD, having learned more about the appropriate strategies for students, and having resources that she can continue to access have all contributed to her increase in confidence. Having her fellow group members at her school also helps. She says,

Knowing that I have four or five other resources just within our school that I can go and speak to and say, “Hey, look. This is happening in my class. What do you think?” Just bouncing ideas off of each other. So having that whole experience as a group has helped me feel more confident as a teacher.

This has important implications for student learning. Research has shown that teachers with a greater sense of self-efficacy are more likely to engage in effective and appropriate teaching strategies for students with learning challenges (Brownell & Pajares, 1996; Eggen & Kauchak, 2006, Poulou, 2007).

Even Kathy, who reported the highest level of self-efficacy in the group related to meeting the needs of her students with characteristics of ADHD before the study began, reported an increase in her confidence level, particularly in the area of communicating with parents. She said,

I believe where I have more confidence is in talking to parents because I would tread so carefully before. I know how hostile and defensive parents can get when they don't want to hear that something might be wrong with their child. And I just didn't know how to approach it. But I realize now it's in nobody's best interest to not voice your concerns. So I stuck to that script you gave us originally, but now I'm just more confident. I don't need to go back to my notes. I describe what I see, the behavior I see and I don't make a diagnosis.
Decrease in Feelings of Stress

Prior to their participation in the CLC, each of the teachers reported experiencing increased levels of stress when teaching students with characteristics of ADHD as compared to teaching their students without ADHD. After participation in the CLC, participants reported a decrease in the level of teaching stress they experienced related to having students with characteristics of ADHD in their classrooms; although the stress did not disappear.

For Kathy, her stress was related to the amount of time she thought about her students with ADHD and whether she felt she was successful or not with them. She said,

It really is very stressful. It is one of the most energy draining experiences I think a teacher has. I've spent an ordinate amount of time thinking about them outside of class and during class too. So I'm very happy to have learned strategies that help – they address the stress. If you have small successes along the way and you feel you've made progress with them, it can be very rewarding. And mostly I do. Personally, it matters greatly to me that I feel successful. When you can't make headway with kids, then that's tough.

Kathy admits the stress will likely never completely disappear when teaching students with characteristics of ADHD in her classroom, but she says, “I have a better comfort level now than I did before.”

At the beginning of the study participants reported that they had elevated levels of stress in anticipation of having students with characteristics of ADHD in their class in the future. For instance, in the summer before this study took place, Wendy found out that she was going to have three students with characteristics of ADHD in her class the following year. In anticipation of this, she had significant increases in the amount of stress she experienced throughout the summer before school started. She worried about how she was going to meet the needs of these
three students, and how to ensure the other students were not adversely affected by their behaviors. During our initial interview together, Wendy admitted she was motivated to participate in the CLC, in part, because she was hoping to reduce her level of stress. She said,

I figure that maybe I can get some strategies that I can use for the students that are the main cause of my stress in the classroom. I knew early on which students I was going to have so I was already stressing about it when it wasn't even the school year beginning yet. That's why knowing the kids that I have in my class, I said yes to this opportunity.

At the conclusion of the CLC experience, Wendy admitted she would likely still have feelings of stress related to having students with characteristics of ADHD in her classroom, but less so. She said, “it would be maybe more like taking a deep breath and going, okay, it's going to be a long year, but we’re going to get through it.

May, Connie, and Danielle also reported experiencing less stress after the CLC experience and acknowledged it would likely never completely disappear. As May commented, “participating in this group definitely made things a little less stressful, but overall I would say I was still stressed last year, even learning what I learned and knowing what I know, it's still stressful.”

Research in the field of ADHD suggests that the teachers that are most successful in meeting the needs of children with ADHD, are the ones who begin by identifying their unique needs (Barkley, 2005). Through their participation in the CLC, teachers acquired a new level of understanding about and compassion for their students with characteristics of ADHD and their particular learning needs. They also reconceptualized their understanding of literacy teaching to include consideration of the cognitive processes involved in literacy learning, particularly for
students with characteristics of ADHD. The teachers were in a better place to both help minimize the typical challenges associated with ADHD and meet their students’ literacy needs. According to Greene (1996) this is considered a goodness-of-fit between the teacher’s teaching approaches and the needs of the students and it is crucial for learning success. In order to create this goodness of fit, the participants needed to be knowledgeable about the specific and unique needs and characteristics of their students (Martinussen et al., 2006; Tannock, 2007).

**Finding #2: Collaborative Learning Community Elements That Supported and Promoted Learning**

Until participating in this study, none of the participants had taken part in professional development specifically focused on the topic of ADHD. None had participated in a similar learning community type of PD. They had experienced, for the most part, professional development that was decontextualized, passive, and which rarely occurred in collaboration with colleagues. Each of the participants expressed an interest in professional learning that took place with colleagues that was based on their needs and interests, that emphasized continuous, long-term, sustained professional learning, and that involved teacher-centered, active forms of learning with a clear link to classroom teaching and learning.

Each of the teachers who participated in the CLC reported it to be a successful experience and one that impacted their teaching practice in a positive and significant way. In particular, they identified three crucial factors related to the format and content of the CLC which ultimately contributed to its success. These elements were the opportunity to work with colleagues, participant control over the format and content of the CLC, and repeated opportunities to reflect on and refine their teaching practice. The elements reported by the participants as most supportive is consistent with those identified in the relevant literature.
Opportunity to Work With Colleagues

All five of the teachers in this study felt that the opportunity to participate in professional development with their school colleagues was the most important factor contributing to both their motivation to participate in the CLC and their assessment of the experience as successful.

Before participating in the study, participants had, for the most part, worked in isolation from each other throughout most working days. Professional interaction amongst them was also often limited. They rarely had opportunities to share ideas, work collaboratively, or support each other. This is not surprising given that the very structure and organization of schools can foster isolation (Lortie, 1975).

Although the teachers regularly participated in staff and grade division meetings together, there were few if any opportunities for teachers to discuss their experiences regarding individual students or particular teaching strategies in any ongoing way or in any great depth. Meetings tended to focus more on school structures, general housekeeping, and didactic or lecture type PD. As Kathy remarked, “We do have monthly division meetings, but sadly there's usually just logistical business like sorting out the Halloween parade or doing a cooperative social studies presentation.” They all noted they had never had PD of any kind specifically on the topic of supporting students with ADHD.

In contrast, the CLC comprised of five colleagues and a participant observer, afforded them opportunities to learn collaboratively. They had opportunities to hear about and discuss research informed strategies. Connie describes it as, “different from other professional development.” She says, “I loved that we got to meet with colleagues and we got to hear about what works and what doesn't work and why.” Kathy felt the same way and commented,
You hear from other teachers about what's working in their classrooms. These are often the most useful pieces of information you get. They say, “When this happens in my classroom, this is what I do. This is what worked, and this is what hasn't worked.” So I thought when I heard other teachers were doing it, I'll do it.

Participants were interested in an experience that was more collegial and collaborative and provided ongoing opportunities for dialogue. As Palmer (1998) suggests, teachers need to form professional communities in order to keep growing in their practice. Furthermore, participation in learning communities with colleagues helps to redress teacher isolation (Croft et al., 2010).

Having the opportunity to hear and talk about common experiences, having a sense of a collective enterprise, and participating in peer observations were noted as particularly supportive aspects of participation in this CLC with their colleagues.

**Common experiences**

Each of the participants came to the CLC with diverse perspectives, experiences, and beliefs. From the onset of the CLC it was evident that there was an immediate respect for each other's individual views. I observed very early on that participants were committed to communicative exchange with their group members. Participants began to share more, however, as they became more comfortable and familiar with each other.

One particular shift came during our fourth meeting together. Wendy was recounting a story about one of her students with characteristics of ADHD who was rarely on task. As she recalled the details about how often her repeated attempts to engage him in writing activities were unsuccessful, she became particularly agitated. She said, “I mean, I'm not going to keep saying it. How many times do I have to go back to him and give him the instruction and say we
are doing this right now. It's really hard.” Within moments, Kathy, Danielle, and Connie were reassuring Wendy that they had had similar experiences and similar feelings of frustration. The following exchange illustrates this:

_Danielle_: This is familiar to me. Had I presented today, I was going to talk about Michael because this is the child that exhausts me and I feel impacts my programming and the success of lessons.

_Connie_: Yes.

_Kathy_: Sometimes those are the ones that make it hard. They sort of can stop you from going forward so they are on your mind more. But I'm so aware of two or three kids in my class who just lose focus all the time, and especially on the carpet and they just derail and they quietly do nothing.

_Connie_: Exactly, that's my little guy.

_Kathy_: For 20 minutes wouldn't be unusual.

_Wendy_: Yeah.

_Danielle_: Unless I remember, “Oh yeah, I better go over to get Michael and redirect him.” So those kids I worry about more.

_Wendy_: That's true, I mean, we spend an inordinate amount of time trying to....

_Connie_: It is very stressful because you get interrupted all the time. If you're teaching a lesson, you constantly have to stop and remind them to be on task and you end up having to backtrack in your lesson. It can be exhausting.

_Wendy_: I have the same feeling because I feel like any transition will take us at least 7 minutes to do. It doesn't matter if it's from their desks to the carpet, the carpet to the desk. I know it's going to take us 5 to 7 minutes to do that because they can't stop talking. Once they get to the carpet it's the same thing.
Kathy: The amount of unfinished work, it's mind-boggling. It makes me ADHD. I find I'm just like, “Oh, help me, I need help over here.” It's like wow. I'm really weary.

It was after these first vulnerable and honest moments when participants were able to admit to feelings they had initially not expressed, that they appeared to become more forthcoming in sharing their stories about their challenges and struggles with their students with characteristics of ADHD. It was the sharing of their stories and hearing the responses from the other participants who had experienced similar challenges that helped them feel more comfortable about their feelings and ultimately their teaching practice. As Danielle remarked,

There really is so much questioning of yourself, right? Is it me? My communication? My teaching? My management? What is it? And obviously when you're part of a group like this, finally, it's really okay what I'm going through because others are going through it too.

Connie shared very similar feelings when she said, “it's amazing to get to hear that other teachers had been there and done that. It's very reassuring to know that I'm not the only one because you always think you are the only one who has a child that's causing you to pull your hair out.”

Shared enterprise: Becoming a community

Community cannot be forced, but the conditions can be created to foster its development. According to Wenger (2006), a community is built when in an effort to pursue their interests, members engage in joint activities and discussion, help each other, and share information. Ultimately, participants may build relationships that enable them to learn from each other. After just a few meetings, the teachers’ participation in this CLC began to resemble a true learning community. Ultimately, participants contributed to what became a newly shared enterprise.
For instance, participants reported feeling strong accountability to their fellow group members and considered it to be a supportive factor in the professional development experience. In the 2 or 3 weeks between group meetings, participants were motivated to both modify their practice and reflect on their teaching based on their new understanding from their meetings together. This was, in part, because, as Wendy said, “We would be meeting to discuss this as a group within the next couple of weeks and you feel an obligation to have attempted new strategies and to have thought about your teaching for their next meeting together.”

Through continuous interactions, teachers had the opportunity to share and learn about each other's skills and experiences, which ended up supporting their mutual growth. Vygotsky (1986) refers to this as the social construction of knowledge. As Danielle reflected, “It was fantastic because the more we connected as colleagues, the more we were able to share and learn from each other.” In fact, teachers began to influence each other's strategy use within the classroom. For instance, as previously discussed the participants were introduced to a strategy called mindfulness practice. Participants had been looking for ways to help with students’ hyperactivity and impulsiveness, particularly during transition times. After being introduced to mindfulness, reading an article about it, and discussing it as a group, Wendy and May were the first to implement the strategy in their classrooms. Wendy felt that it helped her students, “let go a lot of agitation that they bring into the classroom.” She explained,

They love it so much. They actually request it all the time and it really helps them focus. I am a strong believer now in peace moments. And they happen every day now.

Hearing this from the other participants motivated Connie, Danielle, and Kathy to attempt the strategies with students in their classrooms. As Connie remarked, “It was really great to hear
about how the mindfulness practice went from the other teachers. It gave me the confidence to try that idea right away.”

Over time, participants developed a shared repertoire of resources, experiences, stories, tools, and strategies. Through these shared resources, participants found new and different ways for addressing literacy learning within the classroom. These experiences also helped them to maintain a sustained feeling of community amongst themselves over time. In their final interviews, 6 months after the formal meetings of the CLC had ceased, participants noted that they had continued to be sources of support for each other on issues related to supporting students with characteristics of ADHD as well as other unrelated teaching topics.

Furthermore, the sense of community extended beyond the participants in the CLC; the participants in the group became the “go-to” people when other teachers in the school were having issues or concerns related to their students with characteristics of ADHD. They started to become known as “experts in residence.” Perhaps not surprisingly, all of the participants agreed that they would feel comfortable being a resource for those teachers who needed information or advice about students with characteristics of ADHD. In fact, in her interview 6 months after the PD had ceased, Wendy spoke of how her participation in the CLC helped to build teacher leadership and a more collaborative nature within the school system. She said,

So now that we've actually luckily had the opportunity to work together and to have all this knowledge and resources, I've actually already spoken at our division meetings. I've made them aware that we did this professional development and there are resources. We have books and articles available for teachers to read or for parents if they have parents that are asking. I also let them know that if they wanted to speak to me or any of the other members they could do that and have us as a resource.
Peer observations

Towards the end of the CLC process, participants were given the opportunity to observe each other teaching. As each new meeting of the CLC took place in one of the participants’ classrooms, there was a growing interest in seeing each other's teaching practice. Although none of the participants had suggested peer observations in their initial interviews, it was raised as an interest in one of the group meetings. As it was part of my role to help participants reach their learning goals, I approached the school Vice-Principal to ask for release time for the participants and it was eventually approved. The peer observations occurred more than halfway through the professional development schedule. This gave teachers an opportunity to build trust and collegiality before being asked to provide feedback for each other. By the time the observations occurred, meetings and interactions between the teachers had taken place with some regularity and teachers were becoming more comfortable with each other. As the number of meetings increased, the level of interest and willingness to share increased. May considered being observed by a peer to be, “a really great chance to get feedback from someone you've been learning from and trusting within the group.”

The participants themselves decided who to observe and whom to be observed by. There was no evaluative process attached to these observations. Participants were simply being given the opportunity to observe and learn from another teacher working with students with characteristics of ADHD. They were invited to provide feedback for each other if requested. Each participant spoke of feeling comfortable and willing to both give and receive feedback from their colleagues within the group. Although Loucks-Horsley et al. (2010) suggest cultural norms can sometimes create barriers to some professional development activities, such as modeling and giving critical feedback, this was not the case with the participants. This was because a culture of
trust and open dialogue had been established. As a result, there was less risk of teachers feeling vulnerable.

For example, Wendy and May chose to observe one another. May was the least experienced teacher in the group and had a very challenging classroom with several students with characteristics of ADHD – one of them formally identified. She struggled to manage their impulsive and hyperactive behaviors. Wendy also had several challenging students with characteristics of ADHD in her classroom, and she had excellent organizational and classroom management skills. After being invited by May, Wendy made some suggestions for how she could modify her management style. This was the first time May had ever had someone observe her teaching and provide her with constructive feedback. She described it as, “incredibly helpful because Wendy was familiar with my students from our meetings and was able to come in and see where I could make some changes.” May found it equally as helpful to observe Wendy teaching. She found it instructive to observe the ways in which Wendy was able to manage her class despite the fact that she had many students with challenging behaviors. May commented, “It made me think about certain things that I was doing in my class that weren't working. I really thought about some of the things that I could do differently.”

In fact, as a result of this experience, May reached out to Wendy at the end of the school year for some help for the following year. As Wendy describes,

I think the observation time was really great for a number of reasons. For example, May has asked me already to help her out next year with setting up her classroom and getting organized. I think she needs that. She doesn't really have another teacher helping her or guiding her along the way. I know what it's like when you first start out. Now we've built trust and I'm glad she asked.
Given the opportunity to observe each other and provide feedback put participants in the role of co-experts. Peer observations provided them with opportunities to observe and learn from other teachers in action and to be observed and receive constructive feedback. This is consistent with the research which advocates the benefits of receiving feedback and having teaching practices observed. Having these opportunities can lead to teachers reflecting on their own instructional styles, strengths, and areas where they may need help. This is important because according to Guskey (2000) this opportunity increases the chances that change in teaching practice will occur.

**Teacher Input on Format and Content**

Participants placed great value on their shared control over the format and content of the professional development. The format and the topics of discussion for the CLC were organized around participants’ prioritized needs. They noted this as a crucial contributing factor to the success of the PD model. This is not surprising considering numerous studies on in-service professional development and teacher learning have shown the importance of designing and implementing PD for the needs of particular teachers in particular settings (Carpenter et al., 1989; Desimone et al., 2002; Guskey, 1995, 2003; Opefer & Pedder, 2011). Furthermore, King and Newmann (2000) found, as the participants in this study expressed, professional development is more meaningful when participants exercise ownership over its content and process.

**Choice from the start**

Choice and input were integral factors in this professional development model from the beginning. Teachers decided for themselves whether to take part in this study and its
accompanying professional development component; participation was completely voluntary and they valued this. As Wendy explained,

I think it has to be something that you're interested in learning about. And I think it has to be something that you choose to get involved in rather than something that's mandated. Because I think a lot of teachers get told by the administration that this is what you have to do and this is why you have to do it. And then I think teachers rebel a little and they're not as invested. Having the option to do it and doing it the way we did made it much easier and more meaningful.

Studies on professional development consistently support this notion. When teachers are mandated to attend training, there is often little likelihood that teaching practices will be impacted in any significant way (Guskey, 2002; Leithwood, Menzies, & Janzi, 1994).

**Balance of external input and group sharing**

As was previously mentioned, each of the participants felt the most valuable aspect of the CLC was the opportunity to work and collaborate with their colleagues. Group sharing was a priority for them. Participants drew from their own experiences within the classroom in order to share skills and strategies. Participants also acted as experts and supports for each other in a few different capacities. They provided feedback and advice for each other during group meetings and also provided feedback and support for each other through peer observations as previously discussed.

However, this professional development program was not entirely self-directed by the participants; they did not completely define their own agendas. Instead, it was moderated by me; it was my role to offer resources and to encourage the exchange of ideas within this new community. Based on participant feedback in initial interviews, I learned that participants were interested in having an external facilitator who could organize meetings, provide up to date
research and resources, and catalyze their growth and development. As Connie suggested in her initial interview,

    I really want to learn for my colleagues and I'm looking forward to that, but I'm also interested in having your perspective and what you know about ADHD. If you can bring us articles and books to help us with our learning, that would be great. I can say I'm going to find things but the truth is we just don't have the time, as you know.

    Participants requested research informed content so they could integrate discussion about theory and research as it related to their practice. Participants felt that bringing theory and practice together helped them connect to a broader understanding while still focusing on the details of their practical issues. As Wendy explained, “We all feel really lucky to have had the opportunity to work with you and to have these great resources. We needed to have up-to-date information and relevant articles and the right books for what's happening in our classrooms.”

    Participants also felt that having accountability to an outside person helped to motivate them. They felt accountability to the other group members but also to someone who was coming with resources and support for them from outside of the school.

    The participants’ interest in and appreciation of having external support is mirrored in a body of research that shows that teachers are more likely to learn when they collaborate with peers while gaining further expertise through external support (King & Newman, 2000; Loughran et al., 2004; Shulman & Shulman, 2004; Weiss & Pasley, 2009).

**Format**

    Participants also had choice when it came to the details of the format of the professional development meetings; the participants made decisions regarding both the location and
scheduling of the meetings. The CLC was scheduled to take place on-site, at Hampshire Public School; this detail was not a choice. However participants were motivated to take part in the professional development precisely because it was taking place at their school site. As studies have shown, teacher learning that occurs at the workplace has the greatest chance of being effective (Garet et al., 2001; Hoffman, Thomas, & Lawrenz, 2003; Sparks & Loucks-Horsley, 1989). As Danielle remarked,

> Let's be honest, we're all busy at work and at home and sometimes even if something looks absolutely wonderful, if it's scheduled far away and outside of the building, and after school, it's just not convenient. It's not a lack of interest, but I just cannot do it. Sometimes I'm very disappointed when I see something of interest and I have to say I can't do it. So having the meetings here was fantastic. It was easy to access and we got so much out of it.

Participants did make decisions about the specific location of the meetings within the school. Although the first few meetings took place within the speech and language room, the participants quickly decided they wanted the location of each meeting to take place in their classrooms. Teachers each took turns hosting the CLC meetings. This gave them opportunities to gain a better understanding of their fellow participants’ teaching contexts. As Connie said during our fourth meeting together,

> It's great talk to everyone and hear what we do and the strategies we use, but this is also great to actually see the classrooms and how they're organized. I love being able to see the thing that someone is talking him about.

**Scheduling**

Participants were also consulted about the scheduling of meetings. Four of the participants, May, Danielle, Connie, and Wendy asked to have meetings conducted during their
lunch hour. This was because they were interested in avoiding adding to the number of hours in their workday. As Wendy remarked, “Our days are so packed that having extra hours added on after school just really wouldn't work. By having our sessions at lunchtime, it doesn't feel like an extra burden.” Kathy was the most flexible participants in terms of the scheduling of meetings. She said, “Either at lunchtime as most people want, or after school. I'm happy to do whatever makes sense for the entire group. These things matter.” Although, 6 months after the CLC had ceased, Kathy remembered feeling open to lunchtime meetings but at the same time felt somewhat constrained by the short duration. She said, “The only frustrating thing that I ended up finding was that lunch was too short. I feel as though we would often just start to get into some really interesting things and the time would end. I just didn't want it to end.”

Ultimately, though, the majority of participants were interested in having shorter more frequent meetings as opposed to having fewer and longer meetings. Nine meetings, in total, were scheduled to accommodate these interests and they took place every 2 to 3 weeks. The schedule took into consideration their schedules (meetings, testing, field trips etc.). As Connie remarked, “Just being able to have the meetings work around our schedules and what we needed made it so much easier. It was really made for us.”

As a review of the literature suggests, professional developers must find ways to creatively restructure the time that is already available to teachers within the school day. Solutions being implemented fall into several categories: release time, structured or rescheduled time, common time, and purchased time (Darling-Hammond, 2000; Guskey, 1999; Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). Participants in this study chose to use their common lunch hour as it made most sense for their overall needs and goals.
Content of the PD

The design of this professional development was informed by what the participants felt was most appropriate for their context. As Loucks-Horsley et al. (2010) note, teacher learning programs need to align with teachers’ different contexts, goals and purposes, and circumstances. Not surprisingly, the participants felt it was important to have the professional development uniquely tailored to their contexts and their particular goals in order to improve their practice in a meaningful way. As May remarked, “It was as useful as it could be because it was exactly what we wanted and it met our exact needs.”

As was previously outlined in Chapter 3, participants initially requested that the professional development content include an overview of the nature of ADHD including causes, typical symptoms, and how it is identified; the cognitive issues related to ADHD and its educational implications; discussion on how to support students with characteristics of ADHD in their literacy learning – particularly reading and writing; specific strategies for the behavioral issues associated with ADHD; and opportunities to discuss students with characteristics of ADHD from each of their classrooms. However, at the end of each meeting group members would revisit and reconsider their initial goals based on their ongoing and changing needs. Although none of these initial goals were changed, participants added new areas of interest.

Having content that was flexible helped to ensure that the direction and content of the CLC was based on their clearly shared aims and objectives and on their ongoing realities in the classroom. As Birman et al. (2000) found, authentic connections to teachers’ daily work allows for more substantial engagement with the subject matter. May’s comment illustrates this point. She said, “By deciding what to focus on, like talking about certain students from our classrooms,
we were really motivated to think about what we were reading or certain strategies and how they apply to our own situations.”

As May alluded to, participants chose to keep student learning at the center of the CLC process. They did this by preparing and presenting case studies based on their own students’ strengths, challenges, and ongoing academic needs. Group members responded by sharing suggestions and feedback. Participants were able to mediate their own learning through the stories of their students. By doing this, they kept the focus of the majority of discussions on improving student learning, which is crucial for a successful learning community (Guskey, 1997). When asked about what value she placed on having case studies at the center of the CLC discussions, May replied,

By talking about particular students from our classrooms you become really knowledgeable about that student and the strategies that work. And we're learning through that discussion at the same time as were trying things in our classrooms. You can also bring that knowledge to your colleagues, so whoever has that student next year will be able to share in that information. To say this is what he's like, these are the strategies that I've tried, and these are the ones that were helpful and these are the ones that I tried and just didn't work for him. That's very valuable information to share.

Participants found the case studies based on actual students in their classrooms to be very helpful and instructive. However, 6 months after the CLC had finished, both Danielle and Wendy reported it was unnecessary to have discussed five students in great detail. This is because they felt that after discussing two or three students whose needs appeared to be quite similar, this was redundant. As Danielle suggested,
It was great to have real students from our classrooms because this is as real as it gets, but very quickly we could see patterns of how there were some similarities with some of the challenges related to ADHD. Perhaps we could have focused on case studies until we saw the patterns and then use that time for something else.

Another example of when the content of the meetings was driven by teachers’ immediate needs was when participants raised concerns about their problematic communication with parents. Teachers found it difficult to have conversations with parents on the topic of hyperactivity and/or inattention. At times, they avoided the subject altogether because the suggestion of characteristics related to ADHD often resulted in an emotionally charged exchange. Parents often became defensive and upset when the suggestion was raised, and the conversation was often shut down before it began. This was of great concern to the participants because they understood the importance of partnering with parents to ensure children's needs were being met as well as they could be. Participants were interested in being supported to more knowledgeably and comfortably approach the subject with parents. Toward this end, participants requested help with the appropriate language and resources to support them in future discussions.

The following conversation amongst the participants illustrates how this topic was raised:

*Connie*: I'm really not sure what to do with parents who are in denial and they won't even talk about it.

*Wendy*: Yeah, I've always had administration at my meetings when I talk to parents of kids with characteristics of ADHD.

*Danielle*: I think they might look at that as being ganged up on, though I think....

*Connie*: You know, I think they think it's our teaching style.
Wendy: It ends up being a reflection on you. They say, “if you would just motivate him and you were doing something that he was interested in, then there wouldn't be this problem.”

Connie: There has to be a way to have better conversations with parents about this. We need parents. Can we spend some time talking about this because it really does come up all the time. Maybe some talking points would help.

Danielle: Yeah. About what symptoms of ADHD look like, especially the classroom.

May: That would be great.

Kathy: Yes.

In response to this, our next meeting was filled with discussion about ways the participants could improve their communication with parents on the topic of inattention, hyperactivity, and impulsiveness. To support this conversation, I prepared a one-page handout (see Appendix G) with “talking points” for them to use as a resource. Participants found this helped them to feel more comfortable when they raised their concerns related to a student's characteristics of ADHD with parents. As Danielle remarked,

I feel much more prepared for discussions with parents. I'm glad we talked about that because it would come up all the time. The handout you gave us was really helpful too because I use it as a resource and say, you know what, I'm noticing that your child has inattention or hyperactivity and you might want to take a look at this. And then I make a copy for them so they can take it home and think about it without me saying ADHD. Very helpful.

Kathy was able to take what she learned from the discussion and utilize it immediately with the parents of one of her students who she felt had characteristics of ADHD. To Kathy's
delight and surprise, her student’s mother did not become defensive, as parents normally did. She explained,

That was good, and I did that right away with one of my parents. It went very well. Just naming the checklist, Mom didn't bristle; she wasn't hostile. I could see her opening. And when she said that he was able to focus sometimes, I was able to let her know that that was actually typical, that sometimes when students have problems with their attention, they can still sometimes attend and focus. I could see her opening and we were able to have the discussion. So that was great.

**Repeated Opportunities to Reflect on and Refine Teaching Practice**

Each teacher placed great value on the group oriented professional learning that involved modifying their practice in light of self-reflection as well as through group experimentation with teaching practices. The structure of the CLC allowed teachers to test their ideas and strategies and to take risks because they knew they were coming back to the safety of the group to share both their triumphs and challenges and to receive feedback. This structure afforded opportunities for in-depth investigation, reflection, and ongoing feedback which is so important for teachers’ professional learning (Ball & Cohen, 1999; Cochran-Smith & Lytle, 1999; Fullan & Hargreaves, 1991). Participants spoke about the importance of this type of teacher learning as they had not had this opportunity from other PD experiences. For Danielle, the meetings provided opportunities to revisit strategies and to practice them in a way that regular workshops did not support.

When you go to a 2- or 3-hour workshop, you get only so much out of it. For a moment you're motivated to try to apply what you've learned in your classroom, but eventually you kind of forget about it because there are always so many things going on and without any ongoing feedback I guess it just slips your mind. But
with us getting together on a regular basis, we were constantly reminded of strategies and having opportunities to try them out. That's been great.

For Kathy, having ongoing feedback from group members was also highly supportive. She said,

Typically you get the 2- or 3-hour PD, and then there's no follow-up after that. There's no chance to bring the same group of people back together and say, “Okay, you've had a chance to put into practice what we talked about. Let's have feedback. What's working? What's not working?” But with us meeting every month or so, then it was great because we could come back and share what we had done. And if things had worked, we would talk about that. If things hadn't worked, we were able to voice concern. So it was good. I liked it.

The participants appreciated the benefits of having time to, “to develop, absorb, discuss, and practice new knowledge (Loucks-Horsley, Stiles, & Hewson, 1996). Guskey (2000) found that when teachers were afforded this time, they were more likely to use the learned practices and strategies within their classrooms. This was mirrored in the experiences of the participants.

For Danielle, having the professional development take place over a period of time made a, “huge difference” in how theory translated to practice. She elaborated:

We would go back to class, try something, come back and talk to each other. We had time to try strategies. I remember last year we talked about students with ADHD needing immediate rewards instead of long-term ones. We got to try that out in our classrooms and find out the impact for ourselves before coming back to share and get feedback from the rest of the group.

In this regard, the participants’ professional learning was very much a social enterprise where they came to rely on the ongoing discussion, expertise, and support from one another as they continued to test their knowledge, skills, and strategies. Once exposed to new ideas (or
reminded of strategies), teachers valued the sustained opportunities to consciously refine their practice along with their group members. Viewed through a social constructivist lens, participants learned by actively interacting with ideas and experiences rather than passively taking in facts (Bransford et al., 1999; Bruner, 1966). As Birman et al. (2000) have shown, this type of active learning encourages teachers to engage in meaningful discussion, planning, and practice.

*Opportunities for reflection*

Another supportive component of the professional development was the opportunity for participants to reflect on their teaching and learning. As Schön (1983) has outlined, when teachers learn from their own professional experiences, rather than from formal teaching or knowledge transfer, they are more likely to gain developmental insight into their practice. Connie felt the chance to meet with colleagues on an ongoing basis afforded this kind of opportunity to reflect on her practice (Schön, 1983). She said,

> It really made me consider the things that worked and the things that didn't work and to consider why. Like when I got an idea from Kathy and then I got to try it my class and meet again and have follow-ups and say, I tried that idea and it was brilliant or I tried that idea and it just didn't work for her. I have an idea why, but can we talk about that?

This type of reflection on prior actions within the classroom, described as reflection-on-action by Schön (1983) seemed to help cultivate participants’ capacity to reflect-in-action (Schön, 1983) when responding to the literacy needs of their students with characteristics of ADHD. Schön describes reflection-in-action as the ability of teachers to think on their feet. It revolves around the idea that when faced with a teaching issue, teachers connect to their feelings,
knowledge, and prior experiences to react to the situation immediately. Wendy describes how the CLC supported her towards this type of reflecting while in action:

Knowing and understanding more has really helped me because I can see little things as they're happening now that I didn't see before. It's helped me in terms of my own personal perspective. Now if a student is inattentive and they can't finish their writing, for example, I can now step back and think about it related to my teaching choices and then support them with the strategies I've learned, like giving breaks and chunking work more when the clipboard is full.

Having a repertoire of strategies that were tried, discussed, and tested gave participants the confidence and skill set to reflect in action and respond to their students' needs.

**Finding #3: Personal and Contextual Factors Which Shaped the Process**

There are many factors in teachers’ personal and professional lives that influence how they teach literacy in their classrooms, particularly how they work with students who are struggling or who have special learning needs. Educators come to their literacy teaching with a myriad of personal and professional experiences which influence their daily decision-making around instructional practices, interactions with students, and the general classroom environment. As we saw in Chapter 4, participants spoke about their personal connections and experiences related to special needs and their own ideologies and experiences around teaching students with diverse learning needs, including those with characteristics of ADHD. These experiences and connections helped shape participants’ experiences within the CLC.

**Challenges During Their Own Schooling**

It was clear from both interviews and observations that all of the teachers were very passionate about their teaching. Each of them talked at length about the importance of focusing
on student learning, their desire to help students succeed, particularly in the area of literacy, and their commitment to making sure diverse learners were appropriately supported. For Wendy, Kathy, and Connie, this commitment was fueled by personal experience.

Each of them shared stories of how past experiences influenced their pedagogy and their consideration of students with diverse learning needs, including those with characteristics of ADHD. As their individual case studies noted, Wendy and Connie were both profoundly influenced by their personal childhood experience of having had challenges throughout their schooling; Kathy was influenced by being a witness to her family members’ challenging childhood school experiences.

Wendy and Connie came to view their own struggles within the classroom related to their “disabilities” as teaching tools rather than deficits. They believed they were more effective teachers because of their challenges; they could “relate” to the kinds of experiences their students were having. These experiences have shaped how they plan and instruct their literacy and other lessons today.

Wendy

Wendy always keeps her students with learning difficulties at the forefront of her mind when she is planning lessons and delivering instruction, particularly in literacy. She is very thoughtful about choosing adaptive and inclusive strategies to help her students succeed in their daily work. This constant attention to meeting her students’ diverse learning needs is, in part, because Wendy has very vivid memories of feeling misunderstood and being labeled. She was accused of not trying hard enough when she was a young student because she did not often complete her work. Contrary to her teacher’s perceptions, Wendy was motivated and eager to
succeed in school as a child. Nonetheless, her first grade teacher characterized her as someone who wasn't willing to do her work and as someone who was, “lazy.”

It wasn't until she was identified with a learning disability near the end of Grade 1 that her teachers came to better understand why Wendy had been struggling academically. Though she eventually received supportive services through the special education program, the damage to her self-esteem had already been done. Recalling how she felt as a young, misunderstood learner and thinking about her own students, Wendy said, “I don't want them to feel like I did and I'll do whatever it takes to be sure of this.” Deciding to participate in the CLC on the topic of ADHD was one of the ways Wendy could work to ensure that her students would get the kind of support they needed to avoid the experience of feeling “different” as she did. Prior to the study, Wendy already had a strong commitment to employing inclusive strategies for her students. However, by participating in the professional development on the topic of ADHD, Wendy gained a greater understanding of the experiences of her students with characteristics of ADHD, their academic challenges, and the kinds of tools and strategies that would best support them, particularly with their literacy learning. As a result of this, she increased her support for them even more. She said, “I think the participation in our group has definitely impacted my students this year in terms of what I'm doing in the classroom.”

**Connie**

Connie also had challenges as a young student, and was labeled as someone with “special needs” because of her physical limitations. She remembers teachers making assumptions about her academic and physical abilities because of this. As a child she was physically slower than other students and had a limp. She recalled, “I was kind of the sad little case where I wasn't social, so I didn't engage with the kids. And nobody encouraged me and nobody would play with
me because they saw my limp.” Connie was very frustrated by the fact that many of her teachers and fellow students felt she was incapable of things she was actually capable of doing. As a result, she was often forced to sit out of activities that involved anything physical. She says, “I still wanted to be a kid but they would say things to me like, “You don't have to do it if it's too hard.” As a result of this early experience, Connie has a firm philosophy about not making assumptions about her students’ abilities. She feels that giving all students a chance to try and believing they can succeed is paramount. She says,

My attitude is, if it's hard, give it a try. If you can do it, great. If you can't do it, then find something else similar that you can do. I think all kids need to find out what they can do, it's only fair.

These sentiments are embodied in Connie's teaching. She is a constant cheerleader for each of her students – especially for those students who have challenges within the classroom because, she says, “I want to give people chances because I know what it's like not to be given the chance.” After participating in the CLC, Connie feels she has a more sophisticated understanding of the experiences of her students with characteristics of ADHD and how to support them in their literacy learning. In fact, though Connie was perhaps the participant who most identified with her students who had challenges within the classroom, she still felt the CLC helped her to minimize her deficit thinking. That is, she began to move away from thinking that the problem resided in her students. She said,

Instead of thinking subjectively that it's the student, I now realize it's not necessarily the case. They just need the right strategies. They need opportunities to walk around the room and then sit down and do their work if they need to, or even stand up to do the work. Or the idea of working memory being like a clipboard that gets full was really important to me because it never really occurred to
me like that before. I used to give a list of instructions and just repeat them, and repeat them. But now I have a better understanding that you have to give it just a little snippet at a time. It ends up being about my teaching as much as it is about their learning.

_Kathy_

Although Kathy did not have academic or physical challenges herself when she was young student, her commitment to supporting struggling learners has been influenced by the challenges two of her family members had within the school setting. One of Kathy's nephews was in a wheelchair from the age of nine and required an elevated level of support as a result. Another nephew was identified with ADHD. Although Kathy says she has always been interested in knowing more about ADHD because she has students in her classroom every year who exhibit characteristics of ADHD, she became especially interested when her nephew began experiencing challenges related to ADHD. She said,

My sister was always heartbroken – always felt that the teacher was against her son and scapegoated her son. I never observed my nephew in the classroom, so I'm not sure if that was true. But I have a feeling probably to some degree it was.

Kathy feels that having witnessed the experiences of her nephews and how difficult it was for them throughout their schooling, has highlighted for her the notion that “one size can't fit all.” Perhaps this is why she spends a great deal of her professional and personal time thinking about how to support her students with challenges within the classroom.

For Wendy, Connie, and Kathy, their prior personal connections to physical and academic challenges helped to shape both their motivation to participate in the CLC and their learning interests. These three participants had the most interest in understanding why their students with characteristics of ADHD have some of the academic and social challenges they do.
There was an interest in having a better “understanding” of their students. This was because they wished their teachers, or in Kathy's case her nephew's teacher, had made more of an effort to understand them better. This is in line with findings from McGlynn-Stewart’s 2012 study on the impact of teachers’ childhood experiences on their literacy teaching. She found, “the choices that the participants make with respect to their literacy teaching strategies and the type of relationships that they try to develop with their students appear to be significantly influenced by their own early learning experiences” (p. 154).

**Prior Teaching Experience With Students With Characteristics of ADHD**

Although each of the teachers in this study had previously taught students with characteristics of ADHD, those teachers who had taught a greater number of students with ADHD, had a more readily available “toolbox” from which to choose appropriate and supportive strategies for their students. They also reported higher levels of self-efficacy with respect to their literacy teaching. This mirrors research findings which suggest that those teachers with prior experiences with students with ADHD reported having higher confidence in their ability to work with students and in their abilities to use appropriate strategies for them (Ried et al., 1994; Zentall & Javorsky, 2007).

At the time of the study, Kathy and Danielle had been teaching for 17 and 20 years respectively. Both indicated that they had had at least one or two students in their classrooms each year with characteristics of ADHD. As a result, they had taught the most students with characteristics of ADHD because they had been teaching the longest. Although they both reported elevated feelings of stress when teaching students with characteristics of ADHD as previously mentioned, their experiences with the students over the years had given them more
opportunities to learn about ADHD and to attempt adaptive strategies. This contributed to their confidence in their ability to effectively teach literacy to students with characteristics of ADHD.

The teachers with the fewest number of years of experience had the least experience working with students with characteristics of ADHD and therefore had fewer experiences from which to draw. They also have reported lower self-efficacy. The teachers who had the most experience seemed to be most prepared for their students with characteristics of ADHD and were that much more prepared to deepen and extend their learning in the CLC. This experience mirrors Loucks-Horsley et al. (2010) findings that, “even when experts and novices are in sustained professional development situation, the learning is different because of how they process the experience” (p. 140).

Chapter Summary

This chapter concludes the analysis of the findings in this study. Three themes related to teachers’ experiences within a CLC on the topic of supporting students with characteristics of ADHD were explored. The three themes were: certain conditions of the professional development supported and promoted learning; contextual or personal factors helped shape the process; and teaching practices, particularly in the area of literacy, were strongly influenced by teachers’ experiences within the CLC. In the next chapter, I summarize the findings of the study in terms of answers to the five research questions that have guided this inquiry. In addition, I draw implications and offer recommendations for practice and further research. Finally, I reflect on how this research has shaped my own understanding and practice in education.
Chapter 6: 
Conclusion

Introduction

I conducted this study to investigate elementary teachers’ experiences in professional development in the form of a CLC on the topic of supporting students with characteristics of ADHD in their literacy learning. From my own experience as a teacher and as a teacher educator, and from my reading of the literature, I knew that teachers were interested in learning more about ADHD and how to foster success with the appropriate strategies. Teachers, I found, are highly interested in participating in professional learning on this topic. The research literature indicates that teachers benefit most from professional development experiences that emphasize continuous, long-term, sustained professional learning that involves teacher-centered active forms of learning with a clear link to classroom teaching and learning. However, there is little research that explores the details of teachers’ experiences in this type of professional development, particularly on the topic of supporting the literacy learning of students with characteristics of ADHD. Throughout this dissertation, I have sought to improve our understanding of such experiences.

As outlined in the data analysis chapters (Chapters 4 and 5), there were many ways in which the participants’ literacy teaching practice was positively influenced as a result of their participation and learning within the CLC. There were many aspects of the CLC that supported and promoted participants’ learning to result in this positive influence on their teaching practice. Based on the data that has been presented in this dissertation, it is clear that teachers benefit from opportunities to learn about ADHD, its educational implications, and about appropriate and supportive teaching strategies for their students. Teachers need opportunities for meaningful
exploration of their own teaching practices within a learning community setting and to be supported while they transform their knowledge into practice.

In this final chapter I summarize the main findings of this study with respect to teachers’ experiences within the CLC. I identify implications and offer recommendations for teacher professional learning. Specifically, I consider implications for classroom practice, preservice literacy teacher education, and in-service teacher education. Finally, I reflect on the research to highlight how my practice as a teacher educator has been impacted as a result of completing this dissertation.

Summary of the Main Findings

In this section I briefly summarize the main findings from this dissertation. The themes that are explored in Chapters 4 and 5 are summarized under the three research questions that have guided this inquiry:

1. How did the teachers’ participation within the CLC influence their literacy teaching experience?

2. What conditions of the CLC supported and promoted learning for the participants?

3. What personal or contextual factors shaped the participants experiences in the classroom and the professional development experience?

Teachers’ Literacy Teaching Was Positively Influenced

As the findings illustrate, the participants’ literacy teaching practices were positively influenced as a result of their participation within the CLC. This positive influence came about through an interaction of factors related to their knowledge, skills, attitudes, and beliefs as well
as a reconceptualization of both their understanding of their students with characteristics of ADHD and of themselves as literacy teachers.

The participants gained valuable knowledge about ADHD and how it can affect students academically, socially, and emotionally. They increased their knowledge about ADHD and about the potential literacy challenges faced by students with characteristics of ADHD. They increased their knowledge about why students may have these particular challenges, and how they can better support them in their literacy learning. They also gained knowledge about the cognitive processes involved in literacy learning in general, and the types of strategies that support these processes.

As a result of this increased knowledge, participants reported a greater understanding of their students with characteristics of ADHD. In particular, they reconceptualized their understanding of the behaviors of their students–they became more likely to consider and proactively respond to the conditions, settings, or academic tasks that could trigger misbehavior. They also gained more complex understanding of their students’ cognitive challenges and ultimately how this could affect their students’ learning, performance, and ultimately their literacy learning needs. As a result of this new understanding, they reported increased feelings of compassion and more positive feelings towards them.

Greater understanding and compassion led to increased motivation to learn about and utilize newly learned teaching strategies. The participants became more likely to implement adaptive and inclusive strategies as a result of acquiring a better understanding of their students with characteristics of ADHD and their needs.

Furthermore, when teachers observed their students responding positively to the new strategies they were employing, they began to view their role as literacy teachers differently. As
literacy teachers, they now saw it as their role to consider students’ executive functioning as they planned and delivered literacy lessons for all of their students. Moreover, they began to see themselves as teachers who were more capable of effectively meeting the literacy needs of their students with characteristics of ADHD than they were before their participation within the CLC. They all reported enabling students to learn at higher levels as a result. Each of the participants reported this resulted in a sustained increase in their sense of self-efficacy and a significant reduction in their levels of stress related to teaching students with characteristics of ADHD. The CLC's positive influence on participants’ literacy teaching had sustained 6 months after the PD had formally ended.

Elements That Supported and Promoted Learning

Each of the participants felt that the CLC successfully contributed to their professional growth and practice, particularly related to the literacy learning of their students with characteristics of ADHD. They attributed the success to a number of factors.

Opportunity to work with colleagues

Having the opportunity to participate in the CLC alongside their school colleagues was the most important aspect of the PD experience for the participants. As is the case in most school systems, participants often felt isolated without many opportunities to collaborate and engage in dialogue with their colleagues. Through the CLC component of this study, the participants were afforded opportunities to hear about each others' perspectives, experiences, beliefs, and teaching practices. They learned with and from their colleagues through ongoing dialogue, action and reflection in the context of discussion about authentic classroom experiences. As such, the CLC was constructivist in nature.
Having the opportunity to meet with the same colleagues over an extended period of time helped to build a climate of trust and collegiality. It also helped to cultivate continuous growth. This is because, over time, participants became more willing to take risks and discuss how they were learning from both their successes and challenges.

They also benefited from developing feelings of a shared enterprise and a sense of community. Teachers felt a strong accountability to their fellow group members and considered it a catalyst in helping them take responsibility for their learning. Six months after the CLC had formally ended, the sense of community had sustained. Participants continued to be sources of information and support for each other on topics discussed within the CLC and beyond.

**Participant ownership over process and content**

The findings from this study show that having shared control over their learning process was a high priority for the participants in the CLC. Participants maintained control over their learning process by making decisions about both the structure and content of their meetings. Each meeting was organized based on their declared prioritized needs and interests.

As the findings indicate, the participants in this study also placed great value on having a balance of external support and group sharing. They found it highly supportive to have an external moderator of the learning process and facilitator of meetings. It was a crucial supportive element of the PD. Having external support allowed them to focus more of their time and energy on their professional learning and collaboration rather than on the details of the organization of the PD and on seeking out the resources they would need to attain their learning goals.

Having choice over the details of the structure, in terms of format and scheduling of the CLC, was an important factor contributing to the success of the PD. The participants made decisions about the specific location of each meeting within the school. Their decision to have
each CLC group member host a meeting within their classroom gave the participants opportunities to observe and learn from each other's teaching environments. Meetings were scheduled based on the participants’ personal and professional needs. They were interested in having shorter more frequent meetings and decided meetings would take place during their lunch hour. By not adding extra time to their workday, teachers felt they had more time and energy to devote to maximizing their learning.

Perhaps not surprisingly, the participants found it crucial to have the content of the CLC uniquely tailored to their contexts and their particular learning goals. Participants improved their practice in meaningful ways because the content of the CLC was based on their clearly shared aims and objectives. It was based on their ongoing realities within the classroom and was flexible based on their changing needs. It also took into consideration their prior knowledge and experience.

Repeated opportunities to reflect on and refine literacy teaching practice

The findings suggest that one of most powerful aspects of the CLC was that it provided structured opportunities for the participants to learn and review, absorb, discuss, and practice within meetings. They valued the opportunity to test their learning within their classrooms and return to the safety of the group to share their experiences and receive feedback. Individually and collectively, they tried out their ideas and strategies in their classrooms and monitored the unfolding of their efforts. Knowing they were returning to the group to review their literacy instruction, talk about outcomes, and critically reflect on their teaching helped to generate energy and enthusiasm for their new learning. As a result, participants were more interested and motivated to use learned practices and strategies with their students because they felt supported in their efforts. Ultimately, having repeated opportunities to reflect and refine their practice
within a supportive learning community helped to sustain their interest in and motivation to learn about and implement new or reviewed strategies.

**Personal and Contextual Factors Which Shaped the Process**

Each of the participants was committed to ensuring their students, with all of their diverse needs, were supported toward success within their classrooms. Toward this end, they employed many inclusive and adaptive literacy teaching practices. The participants who were most thoughtful and deliberate about their strategy implementation for students who were struggling were those who had challenges themselves as young students or who had been personally affected by witnessing family members struggle. As the findings indicate, the participants who had challenges during their own schooling, reported spending the most time thinking about how to ensure success for their students who had difficulties themselves. Because these participants had strong memories of feeling misunderstood and unsupported when they were young students in school, they were especially driven and committed to ensuring they employed the most supportive and appropriate strategies, particularly for their students who had challenges as they did. They were motivated to ensure their students did not have the same negative feelings they had experienced when they were young students in school.

These participants were significantly influenced by their own early school experiences or their observations of family members who struggled in school. The experiences shaped and influenced both their motivation to participate in the CLC and their particular learning interests within the CLC. They were interested in understanding why their students with characteristics of ADHD had some of the academic and social challenges they did. These interests ultimately influenced the goals and objectives of the CLC.
The participants with the most number of years of teaching experience had taught the most students with characteristics of ADHD throughout their careers. This meant they had more opportunities to try out different strategies and discover which ones were more effective than others. As a result of more trial-and-error experiences, they had a more readily available set of appropriate and supportive strategies for their students. They also had higher levels of self-efficacy and lower levels of stress related to teaching and meeting the needs of their students with characteristics of ADHD, compared to those teachers within the CLC who had fewer years of experience.

Implications and Recommendations

The main purpose of this dissertation research was to explore elementary classroom teachers’ experiences in a CLC devoted to learning about supporting the literacy learning of students with characteristics of ADHD. Based on the findings, it is clear that professional development in the form of a CLC can have a significant impact on teachers’ understanding of their students with characteristics of ADHD and the enactment of strategies to support them. Therefore, teachers must be provided with collaborative learning opportunities in this area. These findings have important implications for pedagogical practice. This is not just for students with characteristics of ADHD, but for the experiences and outcomes of all students who have diverse ways of learning. The implications and recommendations that arise from the findings in this study fall into three areas: school literacy teaching, preservice teacher education, and in-service teacher education.
Implications for Literacy Instruction

As the findings indicate, the participants’ literacy teaching was positively influenced as a result of their participation within the CLC. This positive influence on their literacy teaching afforded better support for their students with characteristics of ADHD. The following are implications and recommendations for school literacy teaching:

- Teachers must offer a wide range of dynamic literacy teaching strategies and present information in multiple ways to help ensure that all students find success, regardless of their way of learning.

- Teachers should provide different ways for students to demonstrate their understanding and knowledge. Teachers must move beyond traditional assessments and allow students to demonstrate their skills and knowledge in alternative ways. For example, students can demonstrate their knowledge and ideas through oral presentations or visual representations, through keyboarding on the computer, or by having their thoughts and ideas audio recorded or scribed for them.

- Teachers should become familiar with the cognitive processes involved in literacy learning. By learning about cognitive processes, such as executive functioning, and their role in literacy acquisition, teachers will be better equipped to support these processes through their literacy planning and instruction.

- Teachers should reconceptualize their understanding of the behaviors of their students with characteristics of ADHD. A child's overt behavioral issues can often be linked to a mismatch between the demands of the context and the abilities of the student to cope with those demands.
Implications for Preservice Education

- Teacher education programs should provide at least one required course in *inclusive education for diverse learning needs* for all general education classroom student teachers.

- Teacher education programs should include coursework that focuses on the topic of supporting students with characteristics of ADHD.

- Teacher education programs should include literacy coursework that focuses specifically on supporting striving literacy learners, including those with characteristics of ADHD.

- Teacher education courses should provide opportunities for teachers to reflect on their own learning, and on their attitudes and beliefs about students with *special or diverse learning needs* and how this informs their teaching philosophy.

Implications for In-Service Teacher Education

The findings from this study show the importance of ongoing professional learning for teachers. Specifically, it shows the benefits of professional development that is designed and implemented for the needs of particular teachers in particular settings and that involves collaboration with colleagues and external support. Teachers are mandated or invited to participate in professional development that is offered through ministries of education, through school districts, and through teacher education programs. The following are recommendations for each of these avenues.
Ministries of Education

- Ministries of Education should ensure that teachers have considerably more access to professional development on the topic of supporting the literacy learning of diverse learners, such as those with characteristics of ADHD, within the general education classroom. General education classroom teachers often come into the field without much, or any, formal education in teaching students with special education needs.

- Curriculum documents should include suggested inclusive and adaptive strategies for teachers to use in order to meet their students’ diverse learning needs.

- Curriculum documents must emphasize the need for systematic observation of individual children to determine the types of teaching strategies each child needs to experience success in their literacy learning.

Districts of Education

- School districts should make single session workshops the exception rather than the norm. They should increase opportunities and funding for teachers to participate in collaborative learning in the form of teacher learning communities, sharing circles, inquiry projects, and study circles.

- Teachers must be given opportunities to participate in professional development that is job-embedded, that is of a longer duration, that allows for collective participation of teachers, that includes opportunities for follow-up reflection and feedback, and that makes a strong connection between what is learned in the PD and how to apply in the teacher's own context.
• Teachers should be offered more PD opportunities to work alongside their colleagues. Working with others from the same school site has the potential to sustain momentum of learning through time by giving teachers a network of other practitioners to help them problem solve and share ideas. Collaborative relationships resulting from learning with and from colleagues can also generate energy and enthusiasm that fuels persistence.

• Professional development staff at the district and ministry levels should offer structure, support, and resources to individual school sites to help initiate and sustain professional learning community endeavors. A structured approach to implementing ideas and strategies and tracing outcomes may also ensure that new initiatives remain a priority.

• Teachers need to be consulted about their professional development activities. This helps to ensure that PD is designed and implemented for the needs of particular teachers in particular settings, and is authentically connected to teachers’ realities.

Implications for Further Research

The findings presented in this dissertation offer important contributions to knowledge of the experiences of elementary classroom teachers in a collaborative learning type of professional development on the topic of supporting students with characteristics of ADHD, particularly in the area of literacy. However, several avenues for further research arose in light of the findings. Future research might consider:
• Investigating the relationship between professional development on the topic of supporting the literacy learning of students with characteristics of ADHD and student achievement.

• Expanding the methods of data collection from this study to include observations of student responses to new literacy strategy used by teachers.

• Extending this research into investigating individual and school factors that help or hinder teachers from changing their literacy teaching practice, such as teachers’ backgrounds and working conditions.

• Investigating the early learning challenges of teacher educators and how this affects their teaching in preservice programs.

• Investigating the influencers of teachers’ attitudes and behaviors towards students with characteristics of ADHD.

• Investigating the benefits of incorporating mindfulness practices into the elementary school curriculum for students with characteristics of ADHD.

Connections Between This Investigation and My Teaching Practice

In the midst of data collection for this investigation into teachers' experiences in a CLC, I began work as a teacher educator in a Master of Teaching program in a large, research-based university located in a North American urban center. I was given the opportunity to redesign and teach a course entitled Introduction to Special Education and Adaptive Instruction for incoming second-year student teachers.
This course is required for all student teachers in this combined Master of Teaching Degree and elementary teaching certification. As I considered the organization and design of this course in June of 2010, I was just completing my final CLC meeting with the participants in my study. I was also long into my data analysis and beginning to come to some preliminary answers to my research questions. I would still be revisiting teachers’ opinions and perspectives about their experiences within the CLC 6 months later. However, at this point in the investigation I had already learned a great deal about how the CLC had informed their literacy teaching practice. I had also learned about the conditions that supported their learning, and the personal and contextual factors that influenced their teaching and learning.

As I designed my course, I decided to put into practice what I had already discovered through my inquiry. I wanted to be sure to create conditions for my incoming students that would foster deep learning as well as energy and enthusiasm for their work. One of the components of the CLC which promoted the most motivation, enthusiasm, and deep and meaningful learning for the participants in my study was their opportunity to learn with and from their colleagues within a small group setting. Knowing how supportive this component of the CLC was, I decided to re-create this opportunity for collegiality within my course. I did this by having students participate in seminar groups.

Students formed and met in the same small seminar groups during each weekly class to discuss their responses to a particular topic from their readings or teaching practicums. A different group member was in charge of planning and facilitating their meetings each week while all members of the group actively participated. As was the case with the participants in my study, my students had opportunities to socially construct their knowledge. They learned about and from each other's thoughts, ideas, and experiences related to the topic.
My students found the seminars to be one of the most enjoyable and supportive aspects of the class. Having the opportunity to learn with and from the same small group of student teachers each week fostered a sense of trust and collegiality and helped support their learning and burgeoning practices. This outcome mirrored the findings from my study.

How I designed my course was also influenced by what I learned about how my participants’ own school challenges had informed and shaped their ideologies and pedagogy. In response to what I learned, I now begin each course by asking my students to write a short reflection paper outlining their attitudes, feelings, and memories about personal experiences they may have had relating to persons with disabilities, special needs, or diverse learning needs. Students are then invited to share their papers with another student and discuss how their personal experiences have shaped their beliefs and priorities within the classroom. I also take the opportunity to share my personal story and how my teaching philosophy has been shaped as a result. It is my hope that student teachers will, throughout their careers, continue to reflect on and consider how their own lives and experiences continue to inform and influence their teaching.

Finally, from my investigation I learned that teachers were profoundly impacted by what they learned about ADHD and how it can affect how students learn. It changed what they knew and understood about their students, how they felt and interacted with them, and how they instructed and supported them in their literacy learning and beyond.

These findings have strengthened my personal and professional interest in ensuring teachers understand, respond to, and celebrate diverse ways of being and learning in their classrooms. For students with characteristics of ADHD, diverse learners, and ALL students, I see the importance of giving teachers the opportunity to learn more about how young students’ minds are uniquely wired to learn. Towards this end, my course emphasizes a one-size-does-
NOT-fit-all philosophy. They learn about the myriad ways they can differentiate their instruction
to meet the particular needs of all of their students, including those with characteristics of
ADHD. My hope is that, through my course, I am planting the seeds that will grow into a career-
long commitment to ensuring their students have multiple pathways to taking in information,
making sense of ideas, and expressing what they learn. With a flexible and reflective approach to
their teaching, and with opportunities for ongoing high-quality professional development, such
as the kind described in this study, they are more likely to accomplish this.


Penuel, W., Fishman, B., Yamaguchi, R., & Gallagher, L. (2007). What makes professional
development effective? Strategies that foster curriculum implementation. *American

better futures: A comprehensive, community-based project for early childhood
development: Highlights of lessons learned*. Kingston, Ontario, Canada: Better
Beginnings, Better Futures Research Coordination Unit.

R. A. Barkley (Ed.), *Attention deficit hyperactivity disorder: A handbook of diagnosis

Treatment effects for children with attention deficit disorder. *Journal of Consulting and

(Ed.), *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment*

of ADHD: A systematic review and metaregression analysis. *American Journal of
Psychiatry, 164*, 942–948.

the continuum of attention skills: A twin study of the SWAN ADHD rating scale. *Journal

*Educational Psychology, 27*(2), 191–218.


Reid, R., Vasa, S., Maag, J., & Wright, G. (1994). An analysis of teachers’ perceptions of
attention deficit hyperactivity disorder. *The Journal of Research and Development in

attention deficit disorders*. Indianapolis, IN: Jossey-Bass.

Reif, S. (2005). *How to reach and teach children with ADD/ADHD: Practical techniques,

Reif, S. F. (1998). Redefining “structure” for students with AD/HD. *Reaching Today's Youth:
The Community Circle of Caring Journal, 2*(2), 24-27.


Appendix A
Participant Consent Letter

December 2009

Dear __________:

I am a PhD student in the Department of Curriculum, Teaching and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I am also a teacher educator as well as a former elementary school teacher. I am conducting a research study on teaching strategies for students with characteristics of ADHD: a study of classroom teachers’ experiences in professional development. The proposed study will be supervised by Dr. Linda Cameron and has been judged to meet the institutional ethical standards at the University of Toronto. Having already received permission from the University of Toronto and your principal, I now seek your formal permission and consent to conduct this research in your classroom and to work collaboratively with you as partners in this research.

The purpose of this study is to understand the influence of specific training in ADHD on teachers’ experiences and practice in the classroom. There is a noticeable lack of detail in the literature concerning teachers’ experiences as they gain new knowledge and understanding of best practices for students with inattention/ADHD. This research study seeks to fill this gap. Research conducted in your classroom could contribute to understanding how to best prepare teachers for teaching students with issues of inattention/ADHD. Participation in this study will also provide an opportunity for professional development in best practices for students with ADHD. Your school has been suggested as an excellent site for this research. Particularly, this project would be well supported by your school's commitment to ongoing professional development for teachers on how to best meet the needs of special needs students in the regular classroom.

As a teacher participant in this research, your input, insight and inquiry is crucial as the study is planned and proceeds. Your knowledge of the children, the quality of the teaching and learning environment you provide at Hampshire PS and your experience in the matters of meeting the needs of all students is valuable in informing the research process. This includes, but is not limited to, consulting with you as to the most appropriate times and ways in which to collect data, so as to be the least disruptive to classroom routine; how best to consult and communicate with you and other teachers so as to positively contribute to the classroom learning community; and ‘checking in’ with you for your insights/feedback regarding the trends and patterns of your instruction and your interactions with students which are being recorded and analyzed within the study data. I am looking for five general classroom teachers who have taught for at least three years.

Participation in this research would involve the following:
• three interviews with you. Each interview will be approximately 60 minutes in length and will be digitally recorded and transcribed. Each interview will take place after school, or at a time that is most convenient for you.
• Three classroom observations. Classroom observations will take place between January 2010 and May 2010 and will each be 2 hours in duration. During classroom observations, pedagogical strategies, teacher interactions with students, and the classroom environment will be observed. I will take fieldnotes throughout the observations.

• CLC meetings. Each CLC meeting (number to be collaboratively determined) will be scheduled at times most convenient for teachers. You will develop a CLC with me and four or more other colleagues around teaching students with ADHD. I will share my professional knowledge and many research-based resources related to teacher pedagogy and support for students with ADHD. The CLC meetings will be an opportunity for professional development as you acquire knowledge and insight about ADHD and appropriate literacy and classroom strategies. You will be agentive partners in the process of learning how to meet the needs of students with ADHD. These meetings will be a forum for professional conversation, inquiry, and development, as I support you and you support each other in reviewing and refining your practice. Meetings will be digitally recorded and transcribed.

Participation in this research project is voluntary. There will be no negative consequences attached to either declining to participate or withdrawing from participation in the study at any time. In addition to being used as thesis research, the results of the data may be used in future presentations and publications in education. Never in this study will I evaluate or "grade" your participation in the professional learning community meetings or your teaching practice. I will not be communicating any evaluative comments to your principal, the parents of your students, or any other person. Your participation in this research will not influence your employment standing in any way. The intent of this research is to understand your experiences as you partake in professional development in ADHD. In order to protect confidentiality, names of the school, teachers, and children will not be listed in any part of the report. All data will be stored in locked filing cabinets and destroyed after my thesis defence, unless further written consent/approval is obtained from participants. My supervisor, Dr. Linda Cameron and I will be the only two people with access to the raw data.

If you agree to participate, please sign the attached consent form. If you have any questions, please contact me at shelley.murphy@utoronto.ca, or my thesis supervisor, Dr. Linda Cameron, at 416 978-0321. Further, the Ethics Review Office of the University of Toronto may be contacted at ethics.review@utoronto.ca or 416-946-3273 for questions regarding the rights of participants.

Thank you very much for your consideration,

Shelley Murphy
PhD candidate
Ontario Institute for Studies in Education
University of Toronto
shelley.murphy@utoronto.ca
Consent Form

Title of Research: A study of classroom teachers’ experiences in a collaborative learning community: learning to improve support for students with characteristics of ADHD and their literacy learning

Name of Researcher: Shelley Murphy

Institutional Affiliation: Ontario Institute for Studies in Education of the University of Toronto

Please mark a check mark on the line:

I, _______________________________, have read the attached letter and agree to be part of this research study as described in the attached letter. I agree to be interviewed and to take part in collaborative learning meetings and I agree to have these digitally recorded. I agree to participate in classroom observations and for notes to be taken. I understand the purpose and nature of the study and am participating voluntarily. I grant permission for the data to be used in the process of completing a doctorate degree, including a dissertation, any future publications (i.e., journals, books, etc.) and/or conference presentations.

Name (please print): _______________________________

Signature: _______________________________

Date: _______________________________
Appendix B
Questions for Interview #1

Background Information:

1. Could you tell me about yourself as an educator?
   - For how many years have you taught?
   - What grades or programs have you taught?
   - Can you tell me about your education?
   - What are your professional qualifications?
   - What professional development experiences have you had?
   - Can you tell me about any personal learning experiences that may have influenced how you teach and work with students with diverse learning needs, including those with characteristics of ADHD (either from when you were a child or from your own experiences in school or with family and/or friends)?
   - Can you talk about any training or professional learning you have had on the topic of supporting students with characteristics of ADHD (either in preservice or in-service)?
   - What factors influence whether you participate in a professional development experience?
   - Can you tell me about how teaching students with characteristics of ADHD has impacted your job experience over the years, if at all?

Classroom Context

2. Tell me about your classroom
   - How many students do you have in your class?
   - How is your classroom organized?
   - What support services have you received in the classroom?
   - How many students do you believe have characteristics of ADHD such as concerning levels of inattention, hyperactivity, impulsiveness?
   - How many students have been identified as having ADHD?
   - What are some of your students’ educational needs?
   - What are some of your students’ social-emotional needs?
Knowledge and understanding of ADHD

3. What does the term ADHD mean to you?
  ➢ Have you had any training in either your preservice program or during in-service related to teaching students with ADHD?
  ➢ On a scale from 1 to 10, can you rate your knowledge level about ADHD?
  ➢ On a scale from 1 to 10 can you rate how confident you feel about meeting the needs of your students who have characteristics of ADHD?
  ➢ Where have you gotten most of your information about ADHD?

Experience with students with inattention/ADHD

4. As a teacher, could you tell me about any of your experiences with students with inattention/ADHD?
  ➢ How many students with ADHD or characteristics of ADHD have you taught?
  ➢ Describe your experience with students who have characteristics of ADHD
  ➢ Can you tell me about one of your students with characteristics of ADHD?
  ➢ Can you talk about any specific strategies you have implemented related to students with characteristics of ADHD?
  ➢ What are the implications of having students with characteristics of ADHD in your classroom?
  ➢ What are the implications for your practice?
  ➢ What are the implications for you personally?
  ➢ Is there anything else you'd like to share about your experiences of teaching students with characteristics of ADHD?

Hopes and goals for the CLC (CLC)

  ➢ When we first spoke a few weeks ago, I asked you to consider your hopes and goals for the CLC. Could you talk about the specific areas or topics, related to teaching students with characteristics of ADHD, you are interested in focusing on?
  ➢ What kinds of resources would help you reach your learning goals?
  ➢ How would you like the CLC meetings to be structured (times, location, dates)?
  ➢ Is there anything else you'd like to share about how you would like the CLC to proceed?
Appendix C
Questions for Interview #2

1. Describe your experience of being part of the CLC.
   ➢ Which aspect(s) of the CLC was most valuable and why?
   ➢ In what ways has your teaching (particularly in the area of literacy) been influenced by your participation in the CLC?

2. Describe your current level of knowledge and understanding about ADHD.
   ➢ Talk about your current level of knowledge about ADHD.
   ➢ Describe what is different about your current understanding of your students with characteristics of ADHD.
   ➢ Going back to your initial interview, I asked you to rate yourself on a scale from 1 to 10 on your confidence level related to teaching students with characteristics of ADHD. You rated yourself ____ out of 10. After your participation within the CLC, how would you rate your confidence level now?
   ➢ Going back to your initial interview, I had asked you to rate yourself on a scale from 1 to 10 on your knowledge and understanding about how to make the best possible literacy instructional decisions for your students with characteristics of ADHD. You rated yourself ____ out of 10. After your participation within the CLC, how would you rate your knowledge and understanding now?

3. Can you talk (more) about how your prior personal experiences have influenced how you work with students with special needs or diverse learning needs?
Appendix D  
Questions for Interview #3

1. Can you briefly describe your class this year?

2. It has now been six months since our last CLC meeting. Can you talk about how your involvement in the CLC has impacted your teaching, particularly in the area of literacy?

3. Can you talk about your attitudes and ideas about your students with characteristics of ADHD?

4. On a scale from 1 to 10, rate your confidence level related to teaching students with characteristics of ADHD?

5. On a scale from 1 to 10 rate your knowledge and understanding about how to make the best possible instructional decisions, particularly in the area of literacy, for your students with characteristics of ADHD?

6. Was this CLC experience different from the professional development you normally participate in? If so, how?

7. Do you think your participation in this CLC has impacted student learning? If so, how?

8. Can you talk about the level of usefulness of:

   ➢ having the professional development at your site
   ➢ having the focus of your meetings being based on what each of you stated you were interested in learning more about (case studies, typical symptoms, research on the brain and ADHD, articles, strategies)
   ➢ working with colleagues
   ➢ having the professional development happen over time as opposed to a one-off workshop
   ➢ going back to your classes and trying out strategies and having the opportunity to come back and discuss with the group
   ➢ discussing specific case studies
   ➢ peer observations

9. Is there anything else you'd like to share about your experience within the CLC on the topic of supporting the literacy learning of your students with characteristics of ADHD?
Appendix E

Case Study Example #1

Student Case Study

Teacher: May  
Student Initials: Q  
Grade: First

Profile (gender, age, IEP, etc.):
male, IEP, identified with combined type of ADHD, sensory processing issues, has worked with an OT

Student Strengths:
math and art, loves doing things that are kinaesthetic, gets along with peers, enjoys time in the library

Related concerns (i.e., behaviour, academic, social, other):
low reading level (approximately L8); minimal writing output; rarely completes work other than math; issues with self-regulation, unpredictable moods and behaviour, always fiddling and touching, acts as though there's no "stop," challenges with voice modulation -- constant "outside" voice,

1. Inattention to task and low reading level
   • behavioural problems in K/1, particularly inattention, are predictive of later reading difficulties (less likely to catch up than those without behavioural/inattention issues)  
   • more difficulties with word recognition/decoding, poor oral language skills = poor comp.  
   • reading difficulties related to impairments in executive functioning/working memory: impaired internalization of speech, poor self-regulation, inattention - difficulties with self-monitoring  
   • silent reading is difficult for students with ADHD -- need to hear their voices to maintain attention; more difficult to process the text silently

2. Self-regulation/self-control
impairments in executive functioning = impairment in self-talk, drive, persistence, willpower, stick-to-it-iveness , ability to self-soothe/calm, self-control, self/internal motivation
   • have difficulty creating private, internal motivation = less likely to stay on task or attend  
   • need external sources of motivation (artificial sources i.e., immediate rewards) in order to stay on task or attend
Strategies Implemented:
- behaviour log based on a point system of 1 to 10, signed off by the aid and parent
- Q previously had a tent to use for quiet/solitude, beanbag, library
- First_______, then _________
- partner work (i.e., for reading)
- Word work on the computer; scribing

Strategies discussed/suggested in CLC
General literacy strategies
- Consider the possibility of giving Q the option of keyboarding during writing time - transition from scribing to Q keyboarding stories himself
- Consider oral presentations or audio recording ideas/stories
- Word work: making and breaking – keep Q active, engaged
- Readers theater activities at level
- Mask or block portions of reading/writing seatwork so Q sees only a portion of what is required at one time (short-term goals = reduced chance of cognitive overload, more likelihood of success, motivation, increased self-efficacy)
- Incentive for staying with group during reading instruction on carpet. Discuss behaviour chart follow-through with parents. Little effectiveness without reward. Reward can be reinforced at school (i.e., "I heard you got a trip to the dollar store as a reward for staying with the group during carpet time for reading all week, well done!")
- Discuss the possibility of one-to-one tutoring in literacy for Q with parent/caregiver

Self-regulation/self-control
- provide as much opportunity for movement as possible – allow Q to stand while completing work, different fidget toy each week (if used appropriately)
- shoebox sized beanbag for Q while sitting on rug for carpet time (invite use only) – helps some students to feel anchored, safe, tactile
- Conference with Q about any new expectations/target behaviour, being specific about what it should "look like" (i.e., “While we are doing our literacy lesson on the carpet, I expect your body and eyes facing me, nothing in your hands (except fidget-toy if works). You can decide whether you need to be sitting on a chair or sitting on the carpet.” Be clear that the nonnegotiable piece is the paying attention part. Begin each morning offering reminder and encouragement; at the end of the day meet again and reward success

- Provide frequent and immediate positive attention, positive reinforcement in the form of rewards/privileges, social rewards especially while in the process of trying to shift target behaviour (i.e., marble jar/stickers/points leading to reward at end of day; verbal recognition from May/EA, "I'm so proud of you for sitting on the carpet and paying attention for 10 minutes straight during a reading lesson," positive attention from classmates, "let's all give Q a thumbs up for doing such a good job sitting on the carpet and paying attention during our literacy lesson.")
• Consider adding group reward component (use less frequently). i.e., *Today you'll have a chance to earn token/marble/point/ticket/class money if everyone is on the carpet and eyes on me within _____ seconds/minutes.*

• Probability reinforcers: raffle tickets for target behaviours. More on target behaviours = more raffle tickets = greater chance of winning a reward

• Redirect undesired behaviour or give consequences by using as few words as possible. Use directives i.e., "*Q, put your book in your desk and come to the carpet now.*" (Corrective response: loss of something the student wants, owing time etc.)
Appendix F
Case Study Example #2

**Student Case Study**

Teacher: Kathy  
Student Initials: L  
Grade: First

Profile (gender, age, IEP, etc.):
male, impairing levels of inattention, does not have a formal identification of ADHD

Student Strengths:
cooperative, sociable, likable, enjoys sharing experiences during science

Related concerns (i.e., behaviour, academic, social, other):
difficulty keeping his attention focused, low production in writing, fine motor issues: usually his grip control affects both the physical task of writing and organization of the print on the page; difficult to read his writing; low reading level (approximately L 12); daydreams, distracted, difficulty self starting, work often incomplete as a result, often loses and forgets things (i.e., can't find journal even though in his desk, forgets lunch even after reminder, forgets shoes in music and knapsack outside etc.)

1. Inattention to task and low reading level/low production in writing
   - it is *inattention* in particular that puts students with ADHD at risk for poor academic outcomes – particularly in reading and writing
   - reading difficulties often related to impairments in executive functioning/working memory: distractibility gets in the way of processing of information
   - impairments in the grapho-motor skills affect both the physical task of writing and organization of the print on the page. More likely to lose their spot when writing, become fatigued and frustrated with their inability to produce, more likely to shut down
   - memory is also involved in fine motor skills: remembering (automatically) the sequence of fine motor movements required in the formation of each letter – more difficult when there are issues with working memory
   - need more external sources of motivation (artificial sources i.e., immediate rewards) in order to stay on task or attend

Strategies already implemented:
- priority seating
- singing (with actions)
- one-on-one time
- chunking his work
- reinforcing the schedule on the board with him (he comes to the board to point to the items on the agenda so he knows what's coming next)
- "beat Bell" or "I'm counting" to help motivate with very slow pace during transitions
- task completion chart
- pencil grip for writing

**Strategies discussed/suggested in CLC**

- when L loses his place while reading independently or with the group, use a ruler to follow along under the line of print (a pointer or finger may get in the way of fluency)
- mask or block portions of seatwork/tasks/assignments to reduce likelihood that L will become overwhelmed with the amount of work required. Reveal only a portion of task at a time
- consider partner reading, audio books
- partner work for brainstorming writing ideas, build in temporary support system for organizing ideas (one-on-one conferencing, graphic organizer, cue cards etc.)
- consider scribing for L, allowing him to keyboard, oral presentations
- consider voice-to-text software (Dragon NaturallySpeaking)
- have students repeat instructions to each other before leaving the carpet for reinforcement (opportunity to hear the instructions again from appear)
- consider having student who is quick to finish desk work act as "expert of the moment" – can move around the room offering assistance
- if implementing charts/rewards, choose one behavior (i.e., finishing assignment within a certain time.) And discuss expectations explicitly. Dealing with the need for novelty, plan on having to change reward at least every week or two. Can change "packaging" of the reward (i.e., fishbowl for students to pull sticker/mystery reward etc.)
- consider talking to parents about individual literacy tutoring
Appendix G
Talking Points for Parents

DSM-IV Criteria for AD/HD

Inattentive Type
Six or more of the following symptoms of inattention have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:

1. often fails to give close attention to details or makes careless mistakes in school, work, or other activities
2. often has difficulty sustaining attention in tasks or play activities
3. often does not seem to listen when spoken to directly
4. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to opposition of behaviour or failure to understand instructions)
5. often has difficulty organizing tasks and activities
6. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
7. often loses things necessary for tasks or activities (e.g., school assignments, pencils, books, toys)
8. is often easily distracted by extraneous stimuli
9. is often forgetful in daily activities

Hyperactive/Impulsive Type
Six or more of the following symptoms of hyperactivity/impulsivity have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity
1. often fidgets with hands or feet or squirms in seat
2. often leaves seat in classroom or in other situations in which remaining seated is expected
3. often runs about or climbs excessively in situations in which it is inappropriate (adolescence/adults -- subjective feelings of restlessness)
4. often has difficulty playing or engaging in leisure activities quietly
5. is often "on the go" or often acts as if driven by a motor
6. often talks excessively

Impulsivity
1. often blurts out answers before questions have been completed
2. often has difficulty awaiting turn
3. often interrupts or intrudes on others (e.g., butts into conversations or games)

-----------------------------------------------------------

223
Diagnosis of ADHD

In Canada, a clinical diagnosis of ADHD can be made by a clinical psychologist, psychiatrist, pediatrician, neurologist, or family physician. Clinical practice guidelines for the assessment and diagnosis of ADHD include gathering information from several sources:

- early developmental history
- interviews with parents and child about current and past symptoms
- behaviour rating scales and/or diagnostic interviews completed by parent, child, and teachers
- review of school performance, achievement, and language skills

The diagnostician considers whether the child's behavioural difficulties are excessive, long-term, and pervasive. That is, do symptoms occur more often than in other children at the same age or gender? Are they ongoing problems, or just a response to a temporary situation. Do the behaviours occur in more than one setting or only in one specific place like the playground or during individual seatwork in the classroom? Did many of the symptoms appear before the age of seven?

If a child/student is able to regulate his/her attention for long periods of time for one particular task (listening to music, watching television, playing video games, drawing, science project etc.) it does not mean that they do not have ADHD. Children with ADHD are able to pay attention for long periods of time to novel tasks or tasks they are highly engaged in.

Students with ADHD are at increased risk for academic difficulties (higher dropout rates, more expulsions, more failed grades, lower math and reading scores). Since each academic year builds on the previous year's foundation, early diagnosis and intervention is critical. Students with ADHD have average or above average intellectual abilities and do NOT need to enter a cycle of failure. Research suggests that parents and teachers must work together for successful outcomes. Teachers CANNOT best support students with ADHD without parental input and support.