TEACHER INSIGHTS: SELF-EFFICACY & PROFESSIONAL DEVELOPMENT NEEDS 
RELATED TO SUPPORTING CHILDREN WITH HIGH-FUNCTIONING AUTISM 

by 

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Abstract

This qualitative research explored the knowledge, self-efficacy, and comfort of general education teachers supporting learners with high-functioning autism (HFA) in the mainstream classroom and their thoughts on related teacher professional development experiences and needs. 5 primary teachers from 5 different Ontario school boards participated in in-person, semi-structured interviews. 3 main findings emerged out of the data: (1) familiarity with students with HFA had a positive impact on teachers and students, which related to increased teacher self-efficacy and understanding of learners with HFA, changes to practice, and benefits to peers and other staff, with participants who had taught the greatest numbers of students with HFA reporting higher confidence ratings and demonstrating more knowledge of HFA; (2) systemic barriers impacted teachers’ ability to support all students, such as inadequate teacher preparation, inaccessibility of services, interventions, and physical and personnel resources; and (3) teachers envisioned their ideal professional development (PD) to support teacher learning, which included what they wanted to learn about HFA, factors increasing or decreasing the likelihood of their participation,
as well as preferred characteristics and formats of PD, with all teachers underscoring the importance of opportunities to collaborate and problematize relevant classroom concerns with colleagues. Implications for teacher education programs and ongoing professional development for teachers, as well as potential directions for future research, are presented.
Dedication

This dissertation is dedicated to Danny,
my source of inspiration;

and the students he has helped me to teach.
Acknowledgements

It is overwhelming to reflect on the community of people who have travelled, in some way, shape, or form, down this path with me. This list is by no means exhaustive. Woven throughout the process have been many lessons about myself, my learning, the importance of balance, and the presence of love around me.

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# Table of Contents

Abstract ........................................................................................................................................... ii  
Dedication ....................................................................................................................................... iv  
Acknowledgements ........................................................................................................................ v  
Table of Contents ............................................................................................................................ ix  
List of Tables ................................................................................................................................... xvi  

Chapter 1: Introduction ................................................................................................................ 1  
About the Researcher ..................................................................................................................... 1  
What is High-Functioning Autism? ............................................................................................... 7  
  Professional Development Needs and High-Functioning Autism ............................................. 8  
  Purpose of the Research and Research Questions .................................................................... 11  

Chapter 2: Review of the Literature .......................................................................................... 14  
A Look at Autism ............................................................................................................................. 14  
  Autism Prevalence ....................................................................................................................... 15  
  Recent Changes to the Diagnostic Criteria for Autism ............................................................. 18  
  Diagnosis ................................................................................................................................. 20  
  Possible Causes of Autism ........................................................................................................ 22  
  Interventions ............................................................................................................................ 23  
Neoliberalism, Inclusive Education, and Autism Policies in Ontario ........................................ 25  
  Neoliberalism and the Ontario Education System ................................................................. 25  
  Autism in a Neoliberal Context ............................................................................................... 27  
  Applied Behaviour Analysis in Ontario Schools ...................................................................... 28  
  The Inclusive Education Model in Ontario Schools ............................................................... 30
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Functioning Autism and Its Presentation in the Classroom</td>
<td>34</td>
</tr>
<tr>
<td>Perspective-Taking Challenges</td>
<td>36</td>
</tr>
<tr>
<td>Rigidity</td>
<td>38</td>
</tr>
<tr>
<td>Socialization and Relationships</td>
<td>40</td>
</tr>
<tr>
<td>Executive Function</td>
<td>44</td>
</tr>
<tr>
<td>Self-Regulation, Emotions, and Sensory Processing</td>
<td>45</td>
</tr>
<tr>
<td>Language Processing</td>
<td>47</td>
</tr>
<tr>
<td>Strengths</td>
<td>49</td>
</tr>
<tr>
<td>Learning and Generalization</td>
<td>51</td>
</tr>
<tr>
<td>Long-Term Outcomes for Individuals with HFA</td>
<td>54</td>
</tr>
<tr>
<td>Teacher Preparation and Development in Ontario</td>
<td>57</td>
</tr>
<tr>
<td>Teacher Professional Development Needs in Special Education</td>
<td>61</td>
</tr>
<tr>
<td>Teacher Professional Development Needs Related to HFA</td>
<td>62</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>64</td>
</tr>
<tr>
<td>Chapter 3: Research Design and Methodology</td>
<td>66</td>
</tr>
<tr>
<td>Qualitative Research Methodology</td>
<td>67</td>
</tr>
<tr>
<td>Multiple Case Studies</td>
<td>68</td>
</tr>
<tr>
<td>Participant Selection</td>
<td>69</td>
</tr>
<tr>
<td>Data Collection Tools</td>
<td>73</td>
</tr>
<tr>
<td>Interviews</td>
<td>74</td>
</tr>
<tr>
<td>Interview design</td>
<td>76</td>
</tr>
<tr>
<td>Researcher journal and memo writing</td>
<td>77</td>
</tr>
<tr>
<td>Data Analysis Using Grounded Theory</td>
<td>78</td>
</tr>
</tbody>
</table>
Credibility and crystallization. .............................................................. 80

Limitations of the Study ........................................................................ 83

Ethical Considerations........................................................................... 85

Chapter Summary .................................................................................. 85

Chapter 4: Individual Case Studies .......................................................... 86

Case 1: Chivonne..................................................................................... 86

Professional Development ...................................................................... 87

Pre-service. ........................................................................................... 87

Ongoing professional learning. ............................................................ 88

Ideal professional development models. ............................................. 89

Teaching Experiences ........................................................................... 90

Teaching and Classroom Context ......................................................... 91

Knowledge and Understanding of HFA .............................................. 91

Integration and Diverse Classroom Needs .......................................... 95

Case 2: Leah .......................................................................................... 99

Professional Development ...................................................................... 100

Pre-service. ........................................................................................... 100

Ongoing professional learning. ............................................................ 100

Ideal professional development models. ............................................. 102

Teaching Experiences ........................................................................... 104

Teaching and Classroom Context ......................................................... 105

Knowledge and Understanding of HFA .............................................. 106

Integration and Diverse Classroom Needs .......................................... 110
Case 3: Tanya ............................................................................................................................ 113

Professional Development ......................................................................................................... 114

Pre-service. ..................................................................................................................... 114

Ongoing professional learning. ......................................................................................... 114

Ideal professional development models. ........................................................................... 115

Teaching Experiences .......................................................................................................... 116

Teaching and Classroom Context .................................................................................... 117

Knowledge and Understanding of HFA ..................................................................... 118

Integration and Diverse Classroom Needs .................................................................... 120

Case 4: Jill .................................................................................................................................. 122

Professional Development ................................................................................................... 122

Pre-service. ..................................................................................................................... 122

Ongoing professional learning. ......................................................................................... 123

Ideal professional development models. ........................................................................... 124

Teaching Experiences .......................................................................................................... 125

Teaching and Classroom Context .................................................................................... 125

Knowledge and Understanding of HFA ..................................................................... 126

Integration and Diverse Classroom Needs .................................................................... 128

Case 5: Evelyn ........................................................................................................................... 131

Professional Development ................................................................................................... 131

Pre-service. ..................................................................................................................... 131

Ongoing professional learning. ......................................................................................... 132

Ideal professional development models. ........................................................................... 133
Chapter 5: Findings and Discussion ................................................................. 142

Finding 1: Familiarity with Students with HFA Positively Influenced Teachers and Students ................................................................. 142

Greater Confidence Associated with More Experiences Teaching Students with HFA ................................................................. 143

Changes to Practice ......................................................................................... 147

The Impact of HFA Awareness on Students ..................................................... 153

The Impact of HFA Awareness on Other Staff ................................................ 158

Finding 2: The Classroom Reality: Systemic Barriers Impacting Teachers’ Ability to Support All Students ................................................................. 162

Lack of Preparation ......................................................................................... 164

Availability of Assessments or Reviews ............................................................ 167

Accessibility of Interventions .......................................................................... 170

Provision of Resources .................................................................................... 173

Finding 3: Ideal Professional Development to Support Teacher Learning ................. 178

Professional Learning on HFA ........................................................................ 178

Factors Influencing Participation in Professional Development Opportunities.... 180

Preferred Characteristics .............................................................................. 183
Chapter 6: Conclusion .............................................................................................................. 193

A Summary of the Main Findings ........................................................................................... 194

Teachers and Students Were Positively Impacted by Knowing Students with HFA
............................................................................................................................................. 194

Systemic Barriers Affecting the Classroom and Teacher Self-Efficacy ...................... 196

Lack of preparation.................................................................................................................. 197

Availability of assessments or reviews. ............................................................................. 197

Accessibility of interventions. ............................................................................................... 197

Provision of resources.......................................................................................................... 197

Ideal Professional Development........................................................................................... 198

Professional learning on HFA.............................................................................................. 198

Factors influencing PD participation.................................................................................... 199

Preferred characteristics...................................................................................................... 199

Usefulness.............................................................................................................................. 199

Collaborative ......................................................................................................................... 199

Credible................................................................................................................................. 200

Formats.................................................................................................................................. 200

Implications and Recommendations .................................................................................... 200
Implications for the Ontario College of Teachers and Teacher Preparation

Programs .......................................................................................................................... 201

Implications for Ongoing Professional Learning .............................................................. 202

The Ministry of Education ............................................................................................. 202

School boards .............................................................................................................. 203

Providers of Professional Development ....................................................................... 204

School-Level Implications ............................................................................................ 205

Administrators ............................................................................................................ 205

Teachers ...................................................................................................................... 206

Future Avenues of Educational Research .................................................................... 207

Implications for the Researcher .................................................................................. 208

Appendix A: Participant Information & Consent Letter ............................................... 241

Appendix B: Interview Guide for Case Study Participants ......................................... 244

Appendix C: Read Aloud Books for Educators ............................................................ 245
List of Tables

Table 1: Participants’ Backgrounds ........................................................................................................... 733

Table 2: Participants’ Perception of Teacher Professional Development Needs Related to HFA
.................................................................................................................................................................. 180

Table 3: Participants’ Professional Development Needs and Preferences .............................................. 183
Chapter 1: Introduction

About the Researcher

There is an air of gravity, as my parents call us to the table. How carefully they control their faces! My older siblings and I look at one another, and then toward Mom. She doesn’t make eye contact as she tells us. Our brother, Danny, has autism.

It was the first time I had heard the word. As my mother explained, so much suddenly made sense – the constant hearing tests reflecting normal functioning. How in preschool, he hid, cowering, under chairs. The familiar refrain, as we prompted him to “show me your beautiful eyes!” How he could rattle off facts about his favourite topics – “The Tyrannosaurus Rex is known for its puny arms” – but struggled to answer questions about other subjects or speak to anyone outside of his immediate family.

My mother, a teacher, researched extensively to learn the best ways to support Danny. In the early nineties, autism was unheard of in our school community. Children with autism went to special schools and the general belief was that they could not speak. High-functioning autism (HFA, originally known as Asperger’s Syndrome) would not become a diagnostic category until 1995. The range of abilities and scattered skills were foreign concepts. His teachers were at a loss.

One day, I walk by his classroom. It is my ritual to check on him throughout the day; so, as usual, I peer through the door as I pass by. He doesn’t see me – he can’t. He sits, wilted, eyes teary and fixed to the floor. It’s as if he is willing himself to disappear. An amplifying voice demands he look at her, answer her. I know he won’t be able to. Why doesn’t she understand? I fumed. Why doesn’t she help him?
In that moment, I awakened to a new world, one in which my brother was misunderstood and treated differently than me, because he could not access the curriculum at school or social relationships the way my other siblings and I could. I felt compelled to sit with Danny each day and help him with his homework. (I infused math questions with his favourite Nintendo characters. Anything to catch his interest.) It was not long before my parents made the decision to send Danny to a private school, which offered small class sizes and highly trained special education teachers for students with unique learning needs. Little did I know that these foundational experiences would inspire not only my future career path but this research study, some twenty years later.

I went on to study at the University of Toronto, specializing in Drama, with minors in Anthropology and History. I worked in various theatres across town, as a theatrical jack-of-all-trades – playwright, actor, producer, stage manager, lighting design, sound and lighting operator, box office staff, fundraising, and dramaturg. My parents worried about the long-term stability. My mother persisted in her belief that I should become a teacher. She encouraged me to enrol in a teacher education faculty and I put it off, saying I had no idea if it was something I wanted to do.

Then, an opportunity presented itself. I agreed to volunteer as a drama teacher for three small classes of students with Asperger’s Syndrome over several months. After all, it would reassure my parents I was considering all options and it would be a learning opportunity for me.

*Two boys drag chairs across the floor into position. I call action. Before me, two astronauts fly through outer space, blithely admiring the view. They look in the same direction as a meteor passes. Suddenly, they are disoriented and the navigator realizes he forgot the map to Mars. They argue like Laurel and Hardy. The navigator cracks some jokes to ease the tension.*
They must work together to get to Mars. The audience is in stitches and applaud wildly at the end. The teacher remarks to me that the student playing the navigator rarely interacts with others at recess or in activities, always has a sombre expression, and has never told a joke in class before. She shakes her head in thrilled disbelief.

I quickly realized how much I enjoyed and was passionate about teaching students with HFA, and continued volunteering for the remainder of the school year. The teacher informed me that, since participating in the drama program, the student was interacting consistently and enthusiastically not only during classes but with other children in unstructured settings. Inspired by the gains experienced by various students, I applied and was accepted into the Master of Teaching program at the Ontario Institute for Studies in Education at the University of Toronto.

Alongside my coursework, I continued to teach drama to help students to generalize social thinking, which became the focus of my master’s research. Single-minded in pursuing experiences that could help me find a position teaching students with HFA, I advocated to arrange a teaching placement in a class for students with HFA as one of my four practica. I read voraciously on the topic and attended numerous autism conferences, training workshops, and enrolled in certificate courses. I received my Special Education Part 1 additional qualification upon graduating (and completed the remaining parts to gain my Special Education specialist qualification as soon as I could, after gaining the requisite teaching experiences).

In 2011, I was hired by a school board. After supply teaching for a few months, I was fortunate to receive a long-term assignment until the end of the school year, doing exactly what I wanted: teaching in a withdrawal program for children with HFA. One of the things I most valued about the position was the collaboration of the greater team. A component of the program
included consulting and supporting general education teachers. As a new teacher, this was
intimidating at first.

_The teacher looks over her bifocals at me as I introduce myself. I begin to tell her about
how we can collaborate over the year, how I will help the student we work with to practice and
develop new skills, and that I am available to support her and the student if there are any issues.
She raises an eyebrow. “I believe in treating all children the same and it’s worked for me for 40
years.”_

_I take a deep breath and proceed with caution. I make a mental note to keep my tone
upbeat rather than critical. “Well, if a child struggled with math, I’m sure you’d give him more
support in that area. This student needs a little more help with self-regulation and social
understanding.”_

_There is a pause. She then says, “What did you say your name was? Dymond? I taught
you in kindergarten.”_

_I learned quickly I would need a delicate touch and could not assume the role of an
expert. Everyone brings an ego to the table, and it became my mantra, that year, to check my ego
at the door. If I wanted positive outcomes for students, I needed to effectively work with
teachers. Teachers needed to want to collaborate – collaboration could not be foisted upon them.
I also needed to recognize the many challenges of being a general education teacher and to
validate their experiences and appreciate their expertise in areas different from my own. When
planning learning goals and lessons for our mutual student, I could not assume that teachers
would prioritize the same challenges I observed in our mutual student. If the student was not
completing any work in class, why would the teacher want to focus on how he was walking
alone at recess? After all, he was not causing trouble. Although solitary recesses were a red flag_
for me, I would have to set learning goals for the student that were meaningful for each individual teacher if I expected a productive relationship. I could gradually build understanding and work on additional goals I felt were important once I had met the teacher’s needs and established trust and rapport.

When a permanent position doing the same role became available at another school the following September, I applied. I have been in the position ever since. Most invaluable to my professional growth as a teacher and as a person has been the collaboration of the greater team of teachers and support staff delivering the same program at different locations. I was lucky to have two mentor teachers to show me the ropes, and to be available to discuss any difficulties or to celebrate successes. At our monthly team meetings, we often broke out into teams to develop new projects or curriculum, discussed challenging cases and potential strategies, shared best practices, and presented new resources or research. The exposure to so many perspectives expanded my own and helped me to develop my pedagogical skills on a steeper trajectory than if I had been a classroom teacher in relative isolation.

In the classroom, my learning curve was similarly sloped. While I had considerable knowledge of HFA from books and from some previous teaching experience, each new student had his or her own distinct strengths and needs and I often did not know where to start. Winning over students who missed their previous teacher of several years was a particular challenge.

*Alberto [pseudonym] refuses to participate in lessons except to point out what he disagrees with. “So, what?” and “that’s stupid” are common refrains. Fortunately, he trusts Sonia, the classroom child and youth worker, who has consistently worked with him over the last several years. Eyeing me suspiciously, he asks her if she likes me. She sings my praises, trying to help him warm up to me.*
Alberto is easily frustrated by other students and his behaviour can escalate quickly. He is large for his age and easily double the height and weight of the other students in the group. At times, he has to leave the class to calm down. On one of these occasions, I try speaking to him to see if he’s ready to return to the group. I get my answer with a swift kick to the shin. It is a tentative, testing kind of kick. It doesn’t leave a bruise. Sonia and I problem-solve this action with him once he is calm, and inform the parent. She makes Alberto bring me a coffee and an apology note the following class.

A few weeks later, I overhear Alberto say he wants to try rock-climbing. On my planning time, I Google “rock climbing for kids” and find a nearby rock-climbing studio. I call, ask many questions, and set up a trip.

The next week when I tell the class, there is a moment of quiet. “No one’s ever listened to me before,” Alberto says, almost to himself. From that moment, our relationship and his relationship to other students in the group changes for the better.

While my heart was – and remains – in the classroom with students, I continued to wonder about ways to reach more students, particularly as I screened many potential candidates for my program each year but could only take a limited number at a time. Each year, as part of my current role, I deliver an in-service to teachers on strategies to support learners with HFA, using an accessible format combining research, anecdotes, and practical strategies. I also regularly present to graduate students at the Ontario Institute for Studies in Education and organizations, such as Young People’s Theatre. I always consider it a success to receive an email or hear teachers say they applied something they learned or were thinking differently about a particular challenging behaviour exhibited by a student and, as a result, were making changes in the environment or their responses to help their student to self-regulate. In the back of my mind,
there has long been a niggling thought, inspired by these experiences: to reach more students, I might need to reach more teachers. When I was finally ready to voice that realization, I made the decision to apply for doctoral research in teacher development.

In short, my mother was right.

**What is High-Functioning Autism?**

Autism is an umbrella developmental disorder which varies in severity across individuals. According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders [DSM-V] (American Psychiatric Association [APA], 2013), it is characterized by significant impairments to communication and socialization, restricted patterns of interest or behaviours, and difficulties with other areas of functioning. Some individuals with autism may present with other co-morbid conditions, an intellectual disability, and/or language impairments, including the possibility of no speech. Current estimates of prevalence range between 1 in 36 and 1 in 68 (Baio et al., 2018; Blumberg et al., 2013; Public Health Agency of Canada, 2018; Xu, Strathearn, Liu, & Bao, 2018). A discussion on prevalence can be found in Chapter 2.

Almost half of all individuals on the autism spectrum have high-functioning autism. While terms such as high-functioning autism (HFA) or Asperger’s Syndrome have sometimes been used interchangeably, they are no longer diagnosed. However, colloquially, in research, and within the autism community, “high-functioning autism” continues to be widely used as a way of identifying a particular subset of individuals who fall on the autism spectrum and who have no intellectual or language delays (e.g. Berenguer, Miranda, Colomer, Baixauli, & Roselló, 2018; Dijkhuis, Ziemans, Van Rijn, Staal, & Swaab, 2017; Southby & Robinson, 2018). Individuals with HFA may be acutely aware of feeling different from others but unaware of what to do to improve the quality of their relationships or communication with others.
Children with HFA tend to be diagnosed later than children with classic autism and are under-serviced in the school system (Safran, 2008; Shepherd & Waddell, 2015). A teacher may be the first professional to notice signs of atypical social development or other indicators of a developmental disability. Yet, school staff often overlook or misunderstand children with HFA, as their verbal and cognitive strengths often conceal their disabilities (Nicol, 2008; Safran & Safran, 2001; Stichter et al., 2010; Tsatsanis, Foley, & Donehower, 2004, as cited by McCrimmon, Altomare, Matchullis, & Jitlana, 2012). With early intervention often touted as having the best outcomes for children with autism, it is vital that teachers learn to recognize how these students may present in the classroom and at recess.

**Professional Development Needs and High-Functioning Autism**

*During a class activity, graduate students in education are categorizing cards with words related to education. We can re-categorize the cards until the timer goes off. Cards labelled “Disability” and “Special Needs” keep being relegated off to the side and matched to words such as “Schooling,” despite my attempts to include them under headings such as “Learning,” “Constructivism,” and “Play.” This activity seems, to me, a microcosm of the subconscious perception of what should be done with students with disabilities in schools – remove them, “school” them in rote ways, without the benefit of engaging and experiential learning.*

With my expertise in autism, it is easy to assume what knowledge someone might need, and similarly easy to assume that something is common sense. Working with children with HFA, I have gleaned the importance of asking my students for their insights when we jointly problem-solve misunderstandings. Often, I am surprised by their reasoning or perspective and have come to appreciate that my knowledge alone is incomplete. In a similar way, when I mentor teachers around HFA, my goal is to avoid assumptions about teachers’ tacit knowledge and, instead, to
establish a dialogue about our different skills, practices, and questions in order to co-construct new knowledge. While my expertise is in HFA, theirs is in general education teaching, their specific classroom context, and how our student presents within that context.

How a teacher conceptualizes both his or her role and student capabilities directly influences outcomes in the classroom (Darling-Hammond, 2005; Hinton, Sofronoff, & Sheffield, 2008; Rubie-Davies, Peterson, Sibley, & Rosenthal, 2015). As the activity in my graduate class highlighted, many teachers are confused about how to teach students with disabilities and have doubts about how to implement inclusive education. Similarly, studies show both general and special educators feel these students learn differently from others, and rely on transmission-oriented teaching or a diluted curriculum, even with students without a cognitive disability (Pugach & Warger, 2001; Reid & Weatherly Valle, 2005). Research shows that a teacher’s expectations for a student’s success inform the student’s own expectations (Hinton et al., 2008). In fact, teacher quality is one of the most significant influences on student achievement (Darling-Hammond, 2006; Wells, 2011). This is also true for students with HFA.

Existing research suggests that students with HFA can be successful in an inclusive classroom if teachers receive training on HFA and appropriate accommodations and modifications to support curriculum accessibility (Able, Sreckovic, Schultz, Garwood, & Sherman, 2015; Hinton et al., 2008; Siu & Ho, 2010). There is a substantial body of research that demonstrates that teachers require more professional development to understand the specific challenges of children with HFA (Able et al., 2015; Barnhill, Polloway, & Sumutka, 2011; Myles & Simpson, 2002; Safran & Safran, 2001). Research from Canada (Corkum et al., 2014), USA (Able et al., 2015; Busby, Ingram, Bowron, Oliver, & Lyons, 2012), the UK (Emam & Farrell, 2009; Guldberg, 2010), Turkey (Ergül, Baydik, & Demir, 2013), and China (Huang &
Wheeler, 2007) suggest that, although teachers acknowledge the importance of ongoing training on autism to improve practices, they report lack of support or meaningful professional development opportunities and feel unable to meet the existing needs.

In my experience as an autism consultant, I have found many educators expressing a strong desire for greater support and knowledge to help their students with HFA. Yet, improvement efforts on the part of individual teachers may also be hindered by a dearth of educational research on HFA, as “Intervention research for ASD has primarily focused on classical autism and has largely ignored the unique constellation of strengths and weaknesses presented by children with AS [Asperger’s Syndrome/HFA]” (McCrimmon et al., 2012, p. 322). Teachers have greater access to resources for lower-functioning autism (McCrimmon et al., 2012), despite the fact that these students will most likely not be placed in the mainstream classroom – unlike students with HFA. Existing literature related to teaching children with HFA focuses predominantly on managing behaviours or on external intervention programmes rather than on understanding and addressing the complete picture of underlying needs. If we expect teachers to support students to the best of their ability, the system must also support teachers — by improving pre-service education and making available resources, multidisciplinary professionals, and professional development models that work for teachers.

There is clearly a need for more professional development for teachers in this area; yet, I suggest we must discover, specifically, what new knowledge and strategies increase teachers’ sense of self-efficacy in teaching and meeting the needs of children with HFA. The global picture reflects a dearth of qualitative inquiry seeking to understand and explore teachers’ perspectives of their own learning needs and experiences. Strikingly absent from research on teacher professional development in HFA is teacher voice. Often it is taken for granted that:
What everyone appears to want for students — a wide array of learning opportunities that engage students in experiencing, creating, and solving real problems, using their own experiences, and working with others — is for some reason denied to teachers when they are the learners. (Lieberman, 1995, p. 591)

Lieberman calls for a move away from professional development like the “one-shot workshop” model (Darling-Hammond, 2005), which conceptualizes teachers as passive recipients (Vernon-Dotson, Lovelace, & Bantum, 2011). Adults have distinct learning needs, just as students have; and it follows that “teachers must have opportunities to discuss, think about, try out, and hone new practices” (p. 591). It raises the question: what do teachers want to learn and how do they want to learn it?

**Purpose of the Research and Research Questions**

This study hinges on the premise that teachers possess valuable insights and expertise, and must be engaged in dialogue to improve practices. As Cochran-Smith and Lytle (1993) observe, “throughout their careers, teachers are expected to learn about their own profession not by studying their own experiences but by studying the findings of those who are not themselves school-based teachers” (cited in Vernon-Dotson et al., 2011, p. 22). Through case studies, I aim to find out from teachers, in their own words, what they already know, what they wish to know and what they envision to be helpful support models and strategies for teachers who have students with HFA in their classrooms. My study will explore the following research questions:

1. What do general educators already know about supporting students with HFA?
2. What do general educators want to know to improve their understanding of students with HFA?
3. What relevant professional development opportunities have general educators who support students with HFA had, if any? What do they consider to have been meaningful professional development experiences?

4. What do general education teachers envision as ideal professional development models and classroom supports?

Definition of Terms

For the purposes of this thesis, the following terms are continually referenced:

**High-functioning autism (HFA).** Throughout this dissertation, HFA is used to describe a diagnosis of autism in addition to the presence of average to above-average intellectual abilities.

**General education teachers/educators.** In this study, the terms general education teacher or general educator describe certified teachers at the elementary school level who deliver the Ontario curriculum to an integrated classroom of students of diverse abilities and backgrounds. General educators teach multiple subject strands throughout the day, as opposed to specialist teachers, who may only teach a single subject specialty (e.g. physical education or music) or who have expertise working with a particular demographic of learner (e.g. special education or English language learners).

**Professional development (PD).** Professional development is a term which encompasses the many modes of learning, both formal and informal, through which teachers gain professional knowledge and insights about teaching and learning. This can include pre-service education, additional qualification courses or continuing education, in-services, workshops, mentorship, collaboration with colleagues, curriculum development, independent reading, self-study, and engagement in research.
Dissertation Overview

The subsequent chapters will delve more deeply into the literature and manifestations of HFA in the classroom (Chapter 2), the participants, methodology, procedure, and limitations of this study (Chapter 3), the emergent themes uncovered through ongoing data analysis (Chapter 4), and a discussion of implications of the findings, as well as considerations for future practice and further investigation (Chapter 5).

Chapter Summary

In this chapter, I elucidated my personal and professional motivations for this research study. I introduced key ideas and themes related to my research on teacher experiences with HFA and their professional development needs. Next, I outlined the research questions that guided this study. This chapter ends with the definition of important terminology and an overview of the format of this dissertation.
Chapter 2: Review of the Literature

This chapter presents a comprehensive review of the literature for current issues related to autism etiology, inclusive education and autism policies in Ontario, the needs and presentation of students with HFA within a classroom context, long-term outcomes of individuals with HFA, teacher preparation in Ontario, and the professional development needs of teachers related to inclusive education and HFA.

A Look at Autism

Autism is an enigmatic, complex, lifelong neurodevelopmental disorder resulting in brain- and behaviour-based differences in individuals with ASD, which includes impairments in social-communication and behavioural inflexibility. It often presents with other co-morbid conditions (Public Health Agency of Canada, 2018; Smith & Samdup, 2018). At the present time, autism is defined and diagnosed based on behavioural characteristics which can vary greatly across individuals (Verhoeff, 2016). The Public Health Agency of Canada (2018) emphasizes that,

Each [individual] with ASD is unique and will have different symptoms, deficits and abilities. Because of the range of characteristics, this condition is named a “spectrum” disorder, where ones’ abilities and deficits can fall anywhere along a spectrum, and thereby, support needs may range from none to very substantial. It is a complex life-long condition that impacts not only the person with ASD, but their families, caregivers and communities. (p. 10)

Because of its heterogeneous symptomatology and the push for more accurate and timely identifications, a significant amount of current medical research aims to identify specific differences in brain development (e.g. Courchesne, Campbell, & Solso, 2011) and genetic
makeup (Yuen et al., 2017); and to create new diagnostic tools based on possible biomedical markers in blood (Anwar et al., 2018), urine (Suganya, Geetha, & Sujatha, 2015), or saliva (Ngounou Wetie et al., 2015), though results from these preliminary studies have yet to be validated. In the United States, the Interagency Autism Coordinating Committee recommended that the federal government double its autism research funding to “address the diagnosis, biology and causes of autism and, critically, efforts to improve services across the lifespan” (Pellicano et al., 2018, p. 82). This section of the literature review will touch on autism prevalence, changes to diagnostic criteria for autism under the DSM-V (APA, 2013), receiving a diagnosis, possible causes, and interventions.

**Autism Prevalence**

Autism is the fastest-growing developmental disability in the United States (Safran & Safran, 2001; Sansosti, 2010), rising from 1 in 150 children in 2000 to 1 in 68 a decade later (CDC, 2016). In the United States, current autism rates are estimated between 1 in 36 and 1 in 59 (Baio et al., 2018). The Centers for Disease Control and Prevention (CDC) monitors health data, which includes autism prevalence, in a number of ways. It funds the Autism and Developmental Disabilities Monitoring (ADDM) Network, which reviews data from 11 sites across the nation on children who are 8 years of age, examining medical records for diagnoses of autism or undiagnosed cases where charts report characteristics of autism (Baio et al., 2018). The most recent report cited autism prevalence as 1 in every 59 eight-year-olds (Baio et al., 2018). Although the 11 sites are located throughout the United States, researchers review less than 10% of the sample population, which means that the data cannot be generalized to all 8-year-olds across the country.
The United States also conducts two nationally representative surveys of children’s health. Their reported autism rates are based on parent or guardian reports of autism, rather than access to services or medical records. The National Health Interview Survey (NHIS) found that, for children ages 3 to 17, rates of autism were 1 in 36 in 2016 (Baio et al., 2018). The most recent National Survey of Children’s Health (NSCH), conducted for the period of 2011-2012 and looking at children aged 6 to 17 years, found rates to be 1 in 50 (Baio et al., 2018).

In Canada, a similar pattern has emerged. In March 2018, the Public Health Agency of Canada released its first National Autism Spectrum Disorder Surveillance System (NASS) 2018 Report. Researchers collected data on children aged 5 to 17 with a confirmed diagnosis of autism from six provinces and one territory: Newfoundland and Labrador, Nova Scotia, Prince Edward Island, New Brunswick, Quebec, British Columbia, and the Yukon (Public Health Agency of Canada, 2018). These areas account for approximately 43% of the population of Canada. It did not include Ontario, the most populous province in Canada, which is home to almost 40% of the national population (Statistics Canada, 2017a, 2017b). Data collection varied in each jurisdiction, with Quebec providing information from health services data; the Maritimes provinces and the Yukon Territories relying on educational system data; and British Columbia using social services data. Each data source had its own limitations. Health data accounted for diagnosed cases only, and could possibly have included misdiagnoses or clerical errors in records. Educational data was not provided by all school boards, and excluded cases where parents had not shared a diagnosis with the education system. Social services data excluded families privately paying for services or who were not accessing services at all. Despite these limitations, the reported Canadian prevalence of autism in children under the age of 18 is 1 in 66.
Although only three provinces had historical data, these also showed a steady increase in rates of autism since 2003 (Public Health Agency of Canada, 2018).

In comparing US and Canadian data, there are differences in the years studied, sample population, and data collection methods. Yet when the NASS report prevalence is adjusted to represent only 8-year-olds to compare with the ADDM sites, rates are comparable: 1 in 63 in Canada in 2015 versus 1 in 59 in the US in 2014 (Baio et al., 2018; Public Health Agency of Canada, 2018) with rates consistently four to five times higher in males than in females (Baio et al., 2018; Public Health Agency of Canada, 2018; Smith & Samdup, 2018).

Research shows that diagnostic rates are affected by different factors. Some speculate that they may be affected by the recent changes to diagnostic categories, as well as by the subjectivity and variation in current diagnostic practices (Mazurek, Lu, Macklin, & Handen, 2018; Shattuck, 2006; Weitlauf, Gotham, Vehorn, & Warren, 2014). Autism may be under-diagnosed in rural communities and lower socioeconomic areas, where access to diagnosticians or related services is harder to come by (Antezana, Scarpa, Valdespino, Albright, & Richey, 2017). Data collected by ADDM has consistently shown that there is a higher prevalence of diagnosis in White children than in Black or Hispanic children in the US and in higher socioeconomic status. However, with each reporting year, disparities in prevalence between White, Black, and Hispanic children have decreased, perhaps due to greater awareness and outreach efforts (Baio et al., 2018).

While there is no debating the dramatic increase of autism diagnoses over the last three decades, this has coincided with changes to the diagnostic criteria for autism, greater autism awareness and media attention, and decreases in diagnoses of learning disabilities and mental retardation (Favaro, 2014; Shattuck, 2006). With the addition of Asperger’s Syndrome to the
DSM-IV in 1995, more individuals qualified for a diagnosis. Recently, HFA was found to comprise the majority of Autism diagnoses (ADDMN Surveillance Year 2010 Principal Investigators, 2014).

In 2013, with the latest edition of the DSM, additional changes were made to the diagnostic criteria that may also influence diagnostic rates going forward. There is speculation that rates may be levelling off, as there has been no significant change to diagnostic rates between 2014 and 2016 (Xu et al., 2018). Some researchers have speculated that, with the removal of Asperger’s Syndrome in the DSM-V, the new criteria might exclude a limited number of people who might previously have qualified for a diagnosis (see Baio et al., 2018; Barton et al., 2013, Turygin et al., 2013, Volkmar & Reichow, 2013, as cited by Zander & Bölte, 2015; Kulage et al., 2014; Sturmey & Dalfern, 2014). However, it is likely that these individuals now qualify for another diagnostic category called social communication disorder (Kim et al., 2014). Ongoing monitoring will be essential in order to verify changes in diagnostic patterns and incidence, which will have implications for policy developers and the many supports needed throughout the lifespan of individuals with autism.

**Recent Changes to the Diagnostic Criteria for Autism**

In the DSM-V, released by the APA in 2013, five categories of autism were removed in favour of a general autism diagnosis and a specification of required support level. Since the introduction of Asperger’s Syndrome to the DSM-IV, there was disagreement about the criteria and whether it was a unique condition (Attwood, 2007; Howlin, 2003). Some studies maintained that Asperger’s was different from HFA, while others considered them to be the same. As Attwood (2007) observed in his seminal book, *The Complete Guide to Asperger’s Syndrome*, “There is currently no convincing argument or data that unequivocally confirm that High
Functioning Autism and Asperger’s syndrome are two separate and distinct disorders” (p. 53).

The changes to the DSM-V criteria are explained aptly by Baio et al. (2018):

Although the DSM-IV-TR criteria proved useful in identifying ASD in some children, clinical agreement and diagnostic specificity in some subtypes (e.g., PDD-NOS) was poor, offering empirical support to the notion of two, rather than three, diagnostic domains. The DSM-5 introduced a framework to address these concerns ... while maintaining that any person with an established DSM-IV-TR diagnosis of autistic disorder, Asperger disorder, or PDD-NOS would automatically qualify for a DSM-5 diagnosis of autism spectrum disorder. (para. 12)

Many individuals with HFA continue to use the term Asperger’s to describe themselves, whether or not it is their official diagnosis, as a way of distinguishing themselves, and it remains in use internationally (Rudy, 2018). As Mehling and Tassé (2016) note,

vernacular distinctions, such as “high” versus “low” functioning, served as informal proxies for autism severity and communicated useful information in both research and practice regarding an individual’s symptom profile and level of impairment offering a starting point for sample characterization, intervention planning, and prognostic determination. (p. 2010)

As mentioned in Chapter 1, colloquially, in research, and within the autism community, the term “high-functioning autism” is a commonly used term which indicates a particular subset of individuals who fall on the autism spectrum and who have no intellectual or language delays (e.g. Berenguer et al., 2018; Dijkhuis et al., 2017; Southby & Robinson, 2018). For the purposes of this thesis, the term HFA refers to a diagnosis of autism in the presence of average to above-average intellectual abilities.
The definition of autism has been defined and redefined in recent years and within the sphere of public opinion, remains hotly debated. While some families and individuals with autism push for research for a cure, some proponents of the neurodiversity movement seek to normalize it as a natural variation of the human condition, and position “the source of impairment and suffering ... [to] the general lack of acceptance, respect and societal tolerance for autistic difference” (Verhoeff, 2016, p. 114). This results in a schism between those families and individuals with autism who are desperate for supports and services and those families and individuals with autism, usually higher-functioning, who are critical of “normalizing” interventions (Orsini & Smith, 2010). It remains a challenge to unify a spectrum of needs under a single label.

**Diagnosis**

In Canada, diagnoses of autism are typically made by a doctor or psychologist (Public Health Agency of Canada, 2018) and children with autism can be reliably identified by age 2 (Smith & Samdup, 2018). Smith and Samdup (2018) state that the American Academy of Pediatricians recommends a developmental screening for all children 18 months to 24 months of age. If screening highlights a pattern of symptoms consistent with autism, pediatricians should follow up with families to have diagnostic assessment completed – essentially a comprehensive report on family and child history, concerns, developmental milestones, socialization, and use of an autism-specific functioning measure or assessment, such as the revised Autism Diagnostic Interview (ADI-R) the Social Communication Questionnaire (SCQ), the second edition of the Social Responsiveness Scale (SRS-2), or the second edition of the Autism Diagnostic Observation Schedule. These measures are also somewhat subjective and most are reliant on parent understanding (Smith & Samdup, 2018). Complicating diagnostic practices, autism is often diagnosed with comorbidities, which can include intellectual disabilities, sleep disorders,
language impairments, gastrointestinal issues, sensory processing difficulties, seizures, Tourette syndrome, ADHD, and anxiety (Public Health Agency of Canada, 2018; Smith & Samdup, 2018).

Baio et al. (2018) found that US children received a diagnosis between 2 and 17 years of age, with most being diagnosed after the age of 4. Children with HFA are typically identified later than other children with autism (Christensen, 2016; Safran, 2008; Shepherd & Waddell, 2015) and often, the child’s “unusual profile of abilities and behaviour are not conspicuous at home but a teacher recognizes qualitative differences in abilities and behaviour in the classroom and playground” (Attwood, 2007, p. 15). Families pursuing a diagnosis in Ontario have three options: (1) pay out of pocket for a costly assessment; (2) be referred to a specific clinical setting where an assessment may be covered; or (3) be referred for a psychoeducational assessment through a school board, which has the added complications of years long waitlists and that not all school psychologists are comfortable diagnosing autism, so may redirect parents to those options outside of the school board. In addition, 66% of elementary school administrators report restrictions on the number of students they can refer each year for assessment services (People for Education, 2018), which certainly impacts timeliness of diagnoses and receipt of appropriate supports. Clark, Vinen, Barbaro, and Dissanayake (2018) state that, even when parents raise concerns with their doctors, it is rare for children to be diagnosed before age 3 due to hesitations about diagnosis reliability and age-related norms, despite studies showing that diagnoses made at age 2 remain stable into school years. Timely identification remains a priority as early intervention can improve outcomes (Attwood, 2007; Public Health Agency of Canada, 2018; Smith & Samdup, 2018).
As previously discussed, autism is diagnosed based on impairments in social communication and restricted and repetitive behaviours. Clinicians must also make a severity ranking between “requiring support”, “requiring substantial support”, and “requiring very substantial support” as a new development under the DSM-V (APA, 2013). This model has been criticized as these severity scales are under-researched, have not been empirically validated and remain subjective (Mazurek et al., 2018), nor have pre-existing autism measures been revised accordingly (Mehling & Tassé, 2016). Some clinicians may take into consideration co-morbidities, behaviours, or additional features outside of core ASD-symptoms in making their determination, while others may not; and severity may vary depending on what is being measured (Mehling & Tassé, 2016; Weitlauf et al., 2014). A child might have higher severity in one domain than the other (Mehling & Tassé, 2016). Without clear guidelines on severity rankings, these labels may be inconsistently applied. For instance, clinicians may conflate average IQ with lower severity, which may impact access to services (Mazurek et al., 2018). Zander & Bölte (2015) also contend that there is ambiguity around the definition of ‘impairment’ and that criteria are not clearly defined by age norms, which might contribute to children being diagnosed later than necessary.

**Possible Causes of Autism**

Research overwhelmingly shows that there are predominantly genetic factors causing autism with 65 autism risk genes so far identified (Packer, 2016, as cited in Smith & Samdup, 2018). Exact causes are difficult to pinpoint, and etiology remains a significant research focus (Spratt et al., 2011). The likelihood of this condition occurring is greater when other genetic syndromes are present (Smith & Samdup, 2018; Yuen et al., 2017). Epigenetic triggers are also the subject of many studies, with multiple environmental conditions being linked to the
development of ASD in utero, particularly around the 5 to 6 months gestation, such as early onset gestational diabetes; auto-immune disorders; high maternal stress level; extremely premature babies; increased parental age; as well as intervals between pregnancy which are either too short or too long. Some researchers are investigating the possibility of a gut microbe link to autism, though this has yet to be proven (Smith & Sandup, 2018). Despite its initial popularity, the myth of the vaccine link has long been debunked by medical research, especially as changes to brain development begin within the first trimester (Beversdorf et al., 2005, as cited in Smith & Sandup, 2018). Differences in behaviour are not made evident until babies are 6 to 12 months of age, though “the developmental pathways for autism are created much earlier than clinical symptoms manifest” (Smith & Sandup, 2018, p. 209).

Given the heterogeneous presentation of autism from individual to individual, it is surmised that differences in genetic makeup and expression can result in different symptomologies. As Yuen et al. (2017) argue, “understanding the genetic subtypes of ASD can also potentially inform prognosis, medical management and assessment of familial recurrence risk, and in the future, it may facilitate pharmacologic-intervention trials through stratification based on pathway profiles” (para. 3). Continuing autism research across fields is invaluable to understanding ASDs and which possible interventions are best suited to support the range of individuals with autism.

**Interventions**

Just as autism manifests in heterogeneous forms, interventions range from pharmacological approaches, to specific diets, to psychological, behavioural, or social skills programs. This is another focus of autism research. From a medical standpoint, it is important to address co-morbidities such as anxiety, sleep or digestive issues that may be contributing to
maladaptive behaviours (Bauman, 2010, as cited in Smith & Samdup, 2018). While there is as yet no specific medication to treat autism core symptoms, co-morbidities can be treated and can have a positive impact (Anagnostou et al., 2012; Smith & Samdup, 2018). Initial trials increasing levels of the hormone oxytocin in individuals with autism have indicated some success in improving social cognition and functioning (Anagnostou et al., 2012). Research suggests there may be brain-based differences in males and females with autism, which may result in symptomatic differences such as increased social reciprocity in females and a potential need for alternative diagnostic measures and interventions, but sex-based differences remain under-researched (Yang & Lee, 2018).

Behavioural interventions are available to address challenging behaviours, to increase communication, and to teach new skills and encourage their generalization to different environments. Early intervention is touted as vital (Clark et al., 2018; Matson & Konst, 2013; Smith & Samdup, 2018), and is linked to improved language and cognitive abilities by the time children reach school age. While these are both linked to future adaptive functioning, high IQ does not always correlate with higher adaptive outcomes (Clark et al., 2018). Yet families in Ontario reported wait times of two to three years for early intervention, the cost of which for families ranges from $50,000 to $70,000 per year (Ontario Autism Coalition [OAC], 2017). Applied behavioural analysis (ABA) interventions are widely accepted as being effective, but further research is required to determine which individuals benefit most, what the ideal ABA intervention should look like for best outcomes, and how effective ABA is in the long-term (Clark et al., 2018; Matson & Konst, 2012; Smith & Samdup, 2018). Many studies examine the impact of different types of interventions, such as parent training (Law, Neihart, & Dutt, 2018), or specific child training in an area such as working memory, executive functioning, or cognitive
flexibility (de Vries, Verdam, Prins, Schmand, & Geurts, 2018). There is some indication that early behavioural treatment gains may be greater for individuals with higher intelligence quotients such as children with HFA (de Vries et al., 2018). What is indisputable, however, is that individuals with highly varied symptoms and presentations require access to a range of individualized interventions (Clark et al., 2018; de Vries et al., 2018).

Neoliberalism, Inclusive Education, and Autism Policies in Ontario

Neoliberalism and the Ontario Education System

Increasingly since the late 20th century, educational systems worldwide have been reframed to fit within a neoliberal context (Sattler, 2012). Rising in parallel with globalisation, the neoliberal movement, as noted in the works of Zygmunt Bauman (2004) and Manuel Castells (2009), has led to “the redefinition of education from a public good to an instrument to enhance national and international competitiveness and meet the demands of a global economy” (Sattler, 2012, p. 4). International assessments and reports, such as one recently commissioned by the Organisation for Economic Co-operation and Development ([OECD], 2015) and designed by economists (Chang, 2015), compare and rank the effectiveness of school systems on a number of metrics, overlooking the nuances and complexities of local context (Done & Murphy, 2018). Neoliberalism reconceptualizes students as future contributors to the economy, valued based on their potential net profit. This has contributed to the continual debate surrounding the state of teachers, pedagogy, the standardized curriculum, and student outcomes. Educational reforms have emphasized “greater centralization, standardization of curriculum, results-based education, and increased accountability for student performance through standardized testing – regardless of the political ideologies of governing party” (Sattler, 2012, p. 20).

In Ontario, public schools must remain competitive through their offering of programs and standardized test scores in order to attract consumers of public education, as enrolment numbers are a determining factor in the education funding formula (Bennett, Dworet, & Weber, 2013; Done & Murphy, 2018; Sattler, 2012). Schools are allocated funds on a per-pupil basis, which determines the precise
number of teachers, specialist teachers or services, educational assistants, and resources accessible to the school; a similar formula quantifies the schedule of maintenance, heating, electricity and repairs to which a school is entitled (People for Education, 2016). Ontario schools are now required to fundraise as part of their block budget (Canadian Teachers’ Federation, 2006). According to the Canadian Teachers’ Federation (2006), there is mounting corporatization in schools, with textbooks and resources designed by organizations as well as board-approved corporate sponsorships, such as Pepsi or Coca-Cola, and advertising rights within schools (see also Baluja, 2011), another aspect of neoliberalism. Discrepancies in funding have raised concern from organizations such as the Ontario Autism Coalition (2018) and People for Education (2018) for perpetuating inequities between schools in different socioeconomic neighbourhoods. In 2016, The Ontario Ministry of Education issued a policy document on additional grants for student needs, which are established based on special education data from the specific school board, standardized test scores, and demographic statistics “at the postal code level to predict special education need” (Ontario Ministry of Education, 2016, p. 15). The inherent problem in this approach is that, rather than investigating systemic factors contributing to higher incidences of special needs in certain areas, the focus is on ameliorating the disability of the student which most affects others around them. It is reminiscent of a British study of higher special education rates in impoverished areas conducted by Exley and Ball (2011), which concluded that neoliberal policies maintained existing social and educational inequalities (Done & Murphy, 2018).

The evolving educational climate has necessitated a substantive change in the role of teachers. The move in the late 1990s to a standardized curriculum and the introduction of standardized testing to measure imposed criteria reduced teacher freedom and coincided with increased calls for accountability and measurable outcomes, positioning the function of educators as performativity rather than nurturing the whole child (Bennett, Dworet, & Weber, 2013; Done & Murphy, 2018). Ironically, the “high level of political intervention can be difficult to reconcile with neoliberal economic theories which explicitly link marketisation with a diminished role for the state” (Done & Murphy, 2018, P. 142). Through a neoliberal lens, poor performance of students is linked to poor teaching, without consideration of other contextual
factors (Done & Murphy, 2018). Teachers are responsible for sufficiently individualizing curriculum delivery, with the provided resources, in order to align all students upon a trajectory of standardized milestones. Teachers and the government view education from discrepant vantage points, with the former calling for more funding and resources to meet growing student needs and the latter calling for fiscal efficiency and improved teacher training on the part of boards and teacher education programs.

**Autism in a Neoliberal Context**

In recent years, neoliberalism has also permeated conversations about autism in recent years. Autism-focused research, publications, conferences, interventions, tools, and purported treatments – not all evidence-based – are widely available for sale (Runswick-Cole, 2014). Most research is conducted with the aim of remediating autism (Waltz, 2013). With growing attention and advocacy movements focused on autism, government policies inevitably were developed to address the question of autism supports and services. In 2007, a Canadian Senate Committee issued a report called ‘Pay Now or Pay Later’, calling for the federal government to provide earlier intervention; effectively using a neoliberal argument to quantify the long-term outcomes of people with autism, both receiving and without social assistance, in monetary terms (Orsini & Smith, 2010).

Some researchers contend that increased rates of autism are a reflection of the neoliberal market economy, requiring individuals to sell themselves as valuable, productive citizens (Timimi, Gardner, & McCabe, 2010, as cited by Runswick-Cole, 2014). Realistically, it is necessary to seek out a label in order to qualify for essential supports; yet, Runswick-Cole (2014) argues that this, in essence, subordinates and commodifies difference. For individuals with HFA and for neurodiversity advocates, it invokes an inherent contradiction: they must simultaneously position people with autism as a natural variation of the human condition (the same) and as neurologically distinct (different) (Runswick-Cole, 2014).

Regardless of political stance, supporting individuals with autism and their families remains a pressing issue in Ontario.
Applied Behaviour Analysis in Ontario Schools

There are approximately 40,000 children and adolescents with a diagnosis of autism in Ontario (Coteau, 2016). Over the past decade, there has been a push in Ontario to better implement ABA principles and practices into classrooms. It is important to mention that the goal of ABA therapy, to normalize behaviours, aligns with the neoliberal philosophy. In a landmark case in 2004, parents challenged the government of Canada to fund ABA therapy (Orsini & Smith, 2010, Waltz, 2013). Michelle Dawson, a Canadian woman with autism, submitted a brief to challenge the claims, critiquing the case as prioritizing parent needs over those of people with autism: "Implicit in these proceedings is the notion that autistics are inhuman, and must be therefore made human. It is only then that their rights will have been respected” (as cited in Waltz, 2013). To Dawson, the objective of ABA would either require the person with autism to pretend to be someone else or to erase an intrinsic part of themselves. In 2004, the Supreme Court of Canada ruled that ABA therapy was not a medically necessary treatment. Despite speaking for herself and for others with autism, Dawson drew ire from families and professionals alike (Orsini & Smith, 2010), including when a prominent psychologist who had never met Dawson disputing her diagnosis by saying, “Malingering comes to mind” (as cited in Waltz, 2013). Notwithstanding this contention, ABA therapy rose to prominence in Ontario, after an Ontario judge ruled on the constitutionality of the province ceasing ABA funding after a child turned 6 years of age (Makin, 2005). Unlike the Supreme Court case, which ruled on ABA in a medical context, the Ontario case determined that ABA was an essential treatment for the educational success of children with autism (Makin, 2005).

In 2007, in response to the rising prevalence of autism, the Ministry of Education issued Public Policy Memorandum (PPM) 140, which mandated school boards to offer appropriate
placements and services to students with autism, to use ABA techniques when needed, and to create transition plans to support students with autism, in consultation with parents. There remains a discrepancy between school boards about what this looks like (Gordon, 2017b; OAC, 2017), and an ongoing human rights case is calling for school-based access to ABA. The Ministry of Education has been criticized for the vagueness of language within the document; for not holding boards accountable to implement PPM-140, for failing to train school staff in ABA principles, and for not coordinating with outside agencies to offer evidence-based ABA practices (OAC, 2017). Early intensive behavioural interventions may require a child to receive 20-40 hours of therapy on a weekly basis over the course of a year (Matson & Konst, 2012), often at a significant cost to parents and requiring children to miss school (Gordon, 2017a; OAC, 2017).

**Autism Policy and the Ontario Autism Program**

Across Canada, autism policies are set by the provincial governments, resulting in inconsistent services from province to province or territory (Stoddart, 2009). Various court cases across the country have been waged to compel governments to partially fund services or to allow specialized therapies to be offered in schools (Gordon, 2017a, 2017b; Makin, 2005; Shepherd & Waddell, 2015). Recently the Ontario government has spearheaded several initiatives to improve autism services and access to appropriate services and interventions. In 2017, it announced the development of a new Ontario Autism Program which would enable more streamlined access to services; fund necessary interventions for children with autism under 18 years of age, regardless of severity; and regulate ABA practitioners (Ministry of Children and Youth Services, 2018). This was an important step, as quality of instructor is associated with variability of outcome (Hastings & Symes, 2002, as cited in Matson & Konst, 2012). Initially, the program announcement led families to believe that only ABA would be funded, which caused some
controversy, as the diversity of autism requires similarly diverse intervention models. After some revisions, the program was redesigned to allow for flexibility regarding which services and supports would be funded. The Ministry of Child and Youth Services also created five regional diagnostic hubs to promote earlier identification (Coteau, 2016). On the education front, the government of Ontario unveiled a 5-million dollar pilot project for the 2017-2018 school year in order to extend ABA training to educational assistants in schools in ABA through 40 hours of online modules. This pilot took place at 18 boards and offered access to private ABA therapy at 11 school sites (Ontario Ministry of Education, 2017a), but received criticism for not being integrated within the school day or the classroom environment, and therefore still requiring students to miss the instructional day (Gordon, 2017b; Nanowski, 2017), resulting in inconsistent access to an inclusive education.

The Inclusive Education Model in Ontario Schools

Today, students attending public school in Ontario receive an inclusive education. While all Canadian provinces mandate some model of inclusive education, the definitions, identifications, and programming differ provincially and across school boards (McCrimmon et al., 2012; McGhie-Richmond, Irvine, Loreman, Cizman, & Lupart, 2013). The Ontario Ministry of Education (2014) defined an equitable, inclusive education system as one “in which all students, parents, and other members of the school community are welcomed and respected, and every student is supported and inspired to succeed in a culture of high expectations for learning” (p. 5). Aligned with the constructivist or “transactional” approach to curriculum (Miller & Seller, 1990), these guidelines recommend inclusive instructional and assessment practices that recognize the right of students to be engaged, active in their learning and assessments and receive instruction, content, and activities tailored to their interests and needs. In the words of
Miller & Seller (1990), there should be a teacher-facilitated "dialogue between the student and curriculum in which the student reconstructs knowledge through the dialogue process" (p. 6). This is in stark contrast to the “transmission” model wherein students are conceptualized as passive recipients of teacher knowledge. Simplistically put, inclusive education is described as placing students with an exceptionality into the general classroom instead of a closed classroom (Kosnik & Beck, 2009).

Since 1980, a public education has been a right for all students in Ontario. With the passing of Education Bill 82, children with special needs were guaranteed a public education and school boards were granted a 5-year period to phase in special education programs and services (Bowlby, Peters, & Mackinnon, 2010). In Ontario, students with an identified exceptionality fall under five categories: behavioural, communication, intellectual, physical, or multiple exceptionalities (Ontario Ministry of Education, 2017b). By 1991, the integrated classroom was viewed as the preferred setting for most students with special needs (Weber & Bennett, 1999, as cited in Brackenreed, 2011). Despite wide acceptance of inclusion as the ideal, it has been criticized for its neoliberal bent:

Inclusion as participation is linked to a wider objective of facilitating the eventual economic productivity of students such that their diagnosed conditions are no longer an obstacle to free competition in the labour market; an economy of moral worth is implied in which the potentially economically active are valued over those who are not ... (Done & Murphy, 2018, p. 152)

Whatever its shortcomings, inclusive education is a vast – and continually evolving – improvement upon the institutionalization of individuals with disabilities that was common only decades prior.
Prior to the inclusive education mandate, teachers had little to no experience teaching students with autism in the mainstream classroom, and given that Asperger’s Syndrome (now HFA) was not assessed by North American diagnostic tools until 1994, even less understanding of the needs of verbal students on the higher end of the autism spectrum. As neoliberalism dominated the education system, the responsibilities of general education teachers evolved to include the success of all students, including those with special education needs, on standardized measures (Done & Murphy, 2018).

By 2005, the Education Act was amended by Ontario Regulation 181/98 to mandate individualized education plans for all students with special needs, to demonstrate learning goals, teaching strategies, and assessment methods individualized to each child. Since then, continued growth in special education needs has become a pressing issue in schools, especially since half of students currently receiving special education supports in Ontario have not been formally identified (People for Education, 2018), which has implications for the funding formula, which allots school boards a per-pupil grant in addition to specific funding designated for supporting students identified with special needs (Bennett, Dworet, & Weber, 2013).

Over the last decade, the Ontario education system has focused on improving the educational experiences of students with autism. In 2007, as discussed earlier, the Ontario Ministry of Education issued Public Policy Memorandum 140, which obligated boards to offer appropriate programming and services to students with autism; to enhance collaboration between families, teachers, and community; to include transition support plans for students with autism between subjects, grades, divisions, and settings; and to utilize applied behaviour analysis techniques into classroom settings as needed (Ontario Ministry of Education, 2007). That same year, it published a resource guide entitled *Effective Educational Practices for Students with*
Autism Spectrum Disorders (Ontario Ministry of Education, 2007b), which also outlined work it had done at the school board level, such as the introduction of ASD consultants and the provision of some training for teacher assistants.

Yet despite an inclusive education mandate in Ontario, teachers do not always know how to implement inclusive education and experience significant stress in trying to implement it (Brackenreed, 2011). Avramidis and Norwich (2002) found that many teachers have reservations about inclusions and that, in general, teachers were more accepting of students with physical disabilities than those with learning or behavioural needs. Studies show that special education teachers may view inclusion more positively, perhaps due to increased training and related confidence level and higher expectations of the abilities of children with special needs (Buell, Hallam & Gamel-McCormich, 1999, Subban & Sharma, 2006, Woolfson, Grant, & Campbell, 2007, as cited in McGhie-Richmond et al., 2013). It is possible that increasing training of teachers in inclusive practices may impact teacher attitudes towards inclusion. Killoran, Woronko, and Zaretzky (2014) discovered that incorporating an inclusive education course into teacher education training at a Toronto university resulted in a more positive change in attitudes toward inclusion.

Teachers may also be concerned about impact on other students in the general classroom. McGhie-Richmond et al. (2013) found that while most teachers in an Alberta board using an inclusion model were in favour of inclusion, some had concerns about support and implementation and about whether students with special needs negatively impacted the education of others. Yet a Canadian study of roughly 2000 third grade classrooms found that performance of students without special needs increased in math, reading, and writing when there were greater
numbers of students with special needs in the class (Demeris, Childs, & Jordan, 2007, as cited by McGhie-Richmond et al., 2013).

Avramidis and Norwich (2002) also found that access to support was another important factor in a more positive teacher attitude toward inclusion. A majority of teachers surveyed in British Columbia reported high stress levels and greater workload when supports were not provided to help students with special needs (Naylor, 2002, as cited by Leblanc, Richardson, & Burns, 2009). A recent survey published by the Elementary Teachers’ Federation of Ontario (2018) found that Ontario teachers reported that educational assistants, social workers and child and youth workers are often not available when needed. Fifty-eight percent of Ontario elementary school principals reported recommending that some students with special needs not attend the full instructional day due to safety concerns and/or insufficient supports (People for Education, 2018). An annual report on Ontario schools found that almost 80% of school boards overspend on special education (People for Education, 2016).

**High-Functioning Autism and Its Presentation in the Classroom**

One of the challenges of inclusive education is understanding the plethora of learning needs in the classroom. For students with HFA, teacher support and understanding are essential to their success at school (Hinton et al., 2008). Therefore, this section includes implications for classroom instruction and management of students with HFA being taught in the inclusive classroom. These students tend to be integrated for all or most of the day yet require different supports than their typically-developing peers (Zajic, McIntyre, Swain-Lerro, Novotny, Oswald, & Mundy, 2018) and have a highly unusual learning profile (Attwood, 2007). Although a teacher being open-minded about inclusion is helpful, Hinton et al. (2008) caution that:
A positive teacher attitude alone, however, is unlikely to be sufficient in supporting and managing the student with AS [HFA] in an inclusive classroom. Teachers also need to have an understanding of the unique viewpoint of the student and the difficulties that the student may experience. The teacher’s knowledge of (and attitude towards) the disorder will also be of critical importance. (p. 35)

There remains a dearth of research on the social difficulties of children with HFA and the potential cognitive mechanisms underlying these (Berenguer, 2018), a critical factor affecting teacher knowledge and understanding. HFA is considered an invisible disability since students with HFA often have strong language and cognitive skills which mask their difficulties (Stichter et al., 2010; Tsatsanis, Foley, & Donehower, 2004, as cited by McRimmon et al., 2012). Teachers may not understand the characteristics of HFA or how these impact student learning (Nicol, 2008; Safran & Safran, 2001; Shepherd & Waddell, 2015). Their scattered skills can leave teachers unsure of where to begin: “For example, a child may be at the mild end in his ability to communicate with others, but at the severe end regarding his behaviour around others” (Willis, 2009, p. 81). Humphrey (2008) maintains that:

Like all other children, pupils with ASD are entitled to a broad and balanced curriculum. The typical pattern of strengths and weaknesses experienced by such pupils do present teachers with a particular set of challenges in making that curriculum accessible, but these can be viewed as an opportunity to help ensure the success of all pupils. (p. 44)

There remains a lack of appropriate services and resources for children with HFA inside and outside of schools (Safran, 2008; Shepherd & Waddell, 2015). Given the importance of early intervention and the significant amount of time children with HFA spend in schools, it is not surprising that many researchers and autism advocacy groups are calling
for improved school-based interventions (OAC, 2017; Safran, 2008; Shepherd & Waddell, 2015). Teachers and school staff would benefit from greater understanding of the areas of need of children with HFA, which are discussed below.

**Perspective-Taking Challenges**

Individuals with HFA have theory of mind deficits (Attwood, 2007; Baron-Cohen et al., 1985; Berenguer, 2018; Williams, Bergström, & Grainger, 2018), which means they struggle with “the ability to attribute mental states to others in order to explain and predict their behaviour” (Williams et al., 2018). Theory of mind is essential to successful reciprocal social interactions and relationships (Matthews & Goldberg, 2018), and the severity of the deficit may be a predictor of the severity of ASD (Brusdon & Happé, 2014, as cited in Williams et al., 2018). A study by Kana et al. (2015) found that individuals with ASD had significantly lower levels of neural activity in areas of the brain involved in theory of mind tasks than the typically developing control group (as cited in Yang & Lee, 2018). Children with HFA perform more poorly on theory of mind tasks than neurotypical children (Berenguer, 2018). Some research suggests they may be able to complete some theory of mind tasks in structured settings but cannot apply concepts during real-time interactions (Scheeren et al., 2013, as cited in Berenguer, 2018).

Individuals with HFA also have difficulty reading and interpreting the emotions of others, which contributes to the challenge they face in inferring the thoughts and feelings of others and impacts social success (Attwood, 2007; Gedek, Pantelis, & Kennedy, 2018; Tsang, 2018). People with HFA find it easier to distinguish more obvious emotions such as happiness and sadness and may not be able to detect more subtle expressions of emotion or variances in expression from person to person (Attwood, 2007; Rutherford & McIntosh, 2007, as cited in
Tsang, 2018). They have a tendency to take information at face value, interpreting it literally, and may be unable to pick up on deception (Attwood, 2007; Baron-Cohen, 1992, as cited by Gedek et al., 2018). They tend to create rule-bound interpretations, as they need to cognitively process this information rather than picking it up intuitively (Attwood, 2007; Tsang, 2018). Research shows this may be because individuals with autism focus on specific features rather than the conceptual whole of a person’s face, missing the meaning conveyed by various aspects in unison (Attwood, 2007; Renzi et al., 2013, as cited in Tsang, 2018). Their ability to read how other social cues such as gesture, eye gaze, and tone of voice and context work together to convey meaning about the thoughts and feelings of others is also impaired (APA, 2013; Attwood, 2007). Similarly, they do not understand that others around them are reading their body language, facial expression, and tone and that they themselves are communicating messages, consciously or unconsciously (APA, 2013).

Thus, children with HFA have to be explicitly taught that the thoughts and feelings of others can be different from theirs. Many social misunderstandings occur as they do not realize the need to filter their words and actions and others may misperceive them as being deliberately rude or lacking empathy (Attwood, 2007). Simon Baron-Cohen (2012) explains that people with ASD have affective empathy, in that they respond with the appropriate emotion when someone else is upset once they understand the other person’s experience. However, they struggle with cognitive empathy, the ability to immediately understand what someone else is going through. Given difficulties interpreting feelings, their empathetic response may come later once someone has helped them to understand the other person’s situation. A recent study has found that reading literary fiction can increase mentalizing ability in the general population, which may also be a viable low-cost intervention to help individuals with autism who struggle with theory of mind.
(Pino & Mazza, 2016). More research in this area could inform teachers’ literacy practices with students with HFA.

Academically, students are asked to perspective-take on a regular basis in many subjects including language, social studies, and math. In a study on narrative competence in individuals with autism who were borderline to high-functioning in terms of their intelligence quotient, 58% needed a prompt to explain what a character was thinking, compared with only 7% of neurotypical individuals. Their recounts lacked details about the feelings of others or how someone’s state of mind could contribute to their actions and did not indicate an understanding of causation of events. Furthermore, individuals with ASD expressed discomfort speculating the states of mind of others (Lee, Martin, Hogan, Hano, Gordon, & Losh, 2018). In subjects like math, individuals with HFA find it particularly difficult to explain their thinking so that someone else understands, and they can become frustrated with questions that have more than one correct answer or approach (Attwood, 2007). They tend to be solitary problem-solvers, unaware that others have knowledge which can help them or the importance of accepting teacher feedback (Attwood, 2007). The unpredictability of the world around them can increase their anxiety and leads to inflexible thinking (Attwood, 2007).

Rigidity

Another feature of autism is rigid, inflexible behaviours and an insistence on routines (APA, 2013). Consequently, students with HFA tend to have rigid thought patterns, seeing the black and the white in any given situation without the shades of grey. Children with HFA experience difficulty when faced with situations that they have not rehearsed or been prepared for (Attwood, 2007). They can face significant challenges adapting to changes in the schedule or a supply teacher, as the new situation is different from their expectations. An added complication
is that they do not always understand flexible uses of language, such as idioms or sarcasm, and they can be resistant to both positive or negative feedback (Attwood, 2007; Stokes et al., 2015).

As previously mentioned, individuals with HFA have rule-bound thinking which can lead to difficulties generalising, a concept which refers to how an individual internalises a rule and subsequently applies it to new but similar situations (Tsang, 2018). For instance, they may be frustrated with the volume in the class at lunch time, both for sensory reasons and because the established rule in their minds is that students should be quiet in that setting. They may not know how to complete assignments that are too open-ended or unstructured or which have not been thoroughly explained to them (Attwood, 2007; Stokes et al., 2015). An important study by Scott and Baron Cohen (1996) found that 92% of children with ASD experienced great difficulty drawing a non-realistic person when instructed to do so. These results were also replicated with children with HFA (Craig et al., 2001, as cited by Ten Eycke & Müller, 2018). They tend to be perfectionists to the degree that they may not try work if they feel they cannot master it on their first attempt (Attwood, 2007).

Individuals with HFA often develop intense areas of interest and can become experts in an area of knowledge, as they may spend significantly more time engaging in their interests than their peers (APA, 2013; Attwood, 2007). Children with HFA may speak about and engage in their special interests to excessive amounts, without paying attention to the interests or interest level of those around them (Berenguer, 2018). Attwood (2007) speculates that their need for routines and their intense preoccupation on their special interests are coping strategies that serve to make life more manageable and less confusing.
Socialization and Relationships

Early on, young children with autism demonstrate differences in social development. Toddlers with autism do not attend as well as typically developing toddlers to the eyes of others (Caruana et al., 2018; Jones et al., 2018, as cited in Tsang, 2018), a skill which is invaluable to social development. This ability to detect meaning from the eyes of others and demonstrate joint attention remains an area of weakness with age (Caruana et al., 2018; Corden et al., 2008, Gross, 2008, Pelphrey et al., 2002, Spezio et al., 2007, as cited in Tsang, 2018). They develop play behaviours that look qualitatively different from same-age peers, preferring solitary play which is often routine-based, such as lining up objects (APA, 2013; Attwood, 2007). They are less likely to engage in spontaneous imaginative play with peers, which requires theory of mind in order to share an imagination (APA, 2013; Attwood, 2007; Berenguer, 2018; Ten Eycke & Müller, 2018).

By the time they reach school age, noticeable differences may be observed in children with HFA, particularly during unstructured times and activities. Attwood (2007) describes the typical range of behaviours that may be evident in children with HFA. At recess, some students with HFA may be all alone, in their own imaginary world, or on the periphery of a group of children, watching but too anxious to join in. Others may actively interrupt games in progress, hoping to engage but lacking the skills to do so appropriately, and effectively damaging relationships by frustrating peers. Some, particularly girls, may use camouflaging strategies like refusing invitations to join peers until they have scrutinized the activity and understood the rules. They tend to be socially immature and have play behaviours that look like much younger children. Because same-age peers can be highly unpredictable, they may seek out younger peers, who play in similar ways, or adults, who compensate for their social differences.
Similarly, as they do during play, children with HFA struggle with the reciprocal nature of conversations (APA, 2013; Attwood, 2007; Berenguer, 2018). They tend to be harder to follow in a conversation, which is another barrier to social communication (Lee et al., 2018). Their interpersonal skills are less developed than peers, which are largely reliant on theory of mind, so they may not know how to use – or even see the potential benefits of – skills such as cooperating, compromising, apologizing, accepting a different perspective, or resolving a conflict peacefully (Attwood, 2007). Consequently, they may struggle with the many unstated social rules, or “hidden curriculum” (Myles & Simpson, 2001), such as the appropriate amount of personal space, eye contact, or affection to give someone (Attwood, 2007). Myles and Simpson (2001) observe that even an innocuous social skill such as a greeting is complex, as the rules change according to the setting, individuals involved, and context, which presents a challenge when generalizing social rules.

In the classroom, children with HFA may not respond appropriately to verbal or non-verbal cues, particularly as they apply to the “hidden curriculum”, such as why students raise their hand and wait to be called, which teachers expect students to know (Attwood, 2007; Myles & Simpson, 2001). Children with HFA may impulsively call out the answers, blurt out their thoughts, or bring attention to the mistakes of others, which may include the teacher (Attwood, 2007). In their interactions, they do not learn to be more successful by observing others or by making a mistake and subsequently trouble-shooting for next time, so they may repeatedly make the same social mistake because they cannot think flexibly for an alternate response (Attwood, 2007). Gedek et al. (2018) state that, underlying these social difficulties is a neurological difference in processing and understanding sources of information received from different modalities:
Social comprehension requires the integration of multimodal information with prior intuition about the nature of others’ minds, often in real time ... a reduced ability to efficiently perform this integration may play a critical role in the social and communicative deficits present even in high-functioning adults, particularly when considering complex social judgements ... (p. 213)

Social deficits may be different in females from males (Attwood, 2007; Yang & Lee, 2018), which further suggests a need for diverse interventions. Female students with HFA may use different compensatory strategies and are potentially better at social reciprocity, and are thus less noticeable (Attwood, 2007). Yang and Lee (2018) found that brain activity was substantively different in females when compared to males on mentalizing tasks, though gender-based differences in ASD are under-researched.

The impact of social differences is profound. Social skills of young children directly correlate to their success as young adults across domains (Jones, Greenberg, & Crowley, 2015). In part because of the gulf between the intelligence of children with HFA and their lack of knowledge about social rules, they are frequent targets of bullying. Moreover, many children with HFA are naïve and do not understand that they are being bullied, seeing any attention from others as friendship; others may be paranoid of the intentions of others, assuming everyone is teasing them due to repeated negative experiences (Attwood, 2007). Little (2002) found the rates of being bullied in children with HFA to be 4 times higher than for their neurotypical peers (as cited by Attwood, 2007). Hwang, Kim, Koh, and Leventhal (2018) reported that these children were significantly more likely to be bullied due to their placement in inclusive environments (Maiano et al., 2016, as cited in Hwang et al., 2018). Their large-scale study of elementary students with ASD, most of whom had no cognitive delays, revealed these children were at high
risk of being bullied; and children with HFA and comorbid anxiety or depression were at the
greatest risk of being bullied. The researchers determined children with HFA were less likely to
be deliberate perpetrators of bullying due to weak theory of mind, though this may be
misunderstood by peers or teachers due to their bluntness, their lack of understanding of the
impact of their actions on others, and, in some cases, when comorbid conditions also presented
as aggression (see review of literature in Hwang et al., 2018). Attwood (2007) speculated that
they were more frequently victimized because children with HFA may aggravate peers; they lack
significant friendships so are less likely to be defended by peers; they often respond passively to
bullying; and they may prefer to be alone at recess, which increases the likelihood that they will
be targeted and marginalized (Attwood, 2007). Research shows children and adolescents with
HFA experience greater loneliness and poorer social relationships compared with peers in
inclusive settings (Bauminger & Kasari, 2000; Locke, Ishijima, Kasari, & London, 2010), and
that research into sensitivity training or adult-facilitated friendships is needed.

Children with HFA tend to develop an acute awareness of their difference from others
(Attwood, 2007; Myles & Simpson, 2001). They may have the social desire to fit in but lack the
skills to be able to do so (Bauminger & Kasari, 2000), and Attwood (2007) suggests they
develop compensatory strategies such as self-blame and depression; escape into imagination;
denial and arrogance; and imitation of other children or characters to cope with these feelings:
“Unfortunately, the long-term consequences of these compensatory mechanisms can have a
significant effect on friendships and prospects for relationships and employment as an adult” (p.
27). Hickey, Crabtree, and Stott (2018) interviewed 13 adults over the age of 50 who were
diagnosed later in life with HFA and discovered that the later they were diagnosed, the greater
their psychiatric issues. As children, they were aware of being different from peers and had a
sense of shame for their difficulties with bullying, academics, employment outcomes, and relationships. Once they received a diagnosis, they were able to reconceptualize their identity: “Painful aspects of past experience could now be explained using an autism framework, helping to integrate disparate experiences into a more coherent narrative, reduce self-blame and reattribute some responsibility for those experiences to the diagnosis” (p. 364). Participants in the study expressed a long-time desire for connection and they found value in joining the autism community once they had received their diagnosis.

**Executive Function**

Research consistently shows that individuals with ASD experience executive functioning deficits (Attwood, 2007; Berenguer et al., 2018; Ten Eycke & Müller, 2018). In a study by Berenguer et al. (2018), children with HFA showed greater executive function impairments than typically developing children, which also predicted their social functioning and social adaptation (Ten Eycke & Müller, 2018). Executive function refers to a collection of related processes that regulate behaviours such as organization, planning, working memory, impulse control, flexibility, self-reflection and monitoring, time management, prioritizing, problem-solving, understanding of complex or abstract concepts, and understanding new strategies (Attwood, 2007; Berenguer, 2018; Ten Eycke & Müller, 2018). At school, this may translate into an inability to determine and attend to what is important (saliency), difficulty remembering what to do, more time needed for task completion, and frustration when asked to transition to another activity (Attwood, 2007). These challenges become more evident during adolescence when demands increase for students to plan, organize, self-manage assignment timelines, collaborate with peers, and to infer and critically think more often compared to elementary school (Attwood, 2007; Berenguer 2018).
Children with HFA also have weak central coherence, meaning they process information in pieces rather than by considering the whole picture (Attwood, 2007; Frith, 1989, 2003, as cited in Ten Eycke & Müller, 2018). This over-attention to small details can be a tremendous strength later on for certain career paths; however, it can render them mind-blind (Baron-Cohen, 1995) and context-blind (Vermeulen, 2012) in social situations. Despite often having an exceptional memory for details, they may require greater processing time to interpret the social communication of others and may face challenges in evaluating possible responses in real time (Attwood, 2007). The OAC (2017) cautions that, due to executive function deficits that leave students with autism less able to predict or understand social norms and the consequences of their behaviour, children or adolescents with autism are more vulnerable to suspensions, expulsion, or changes in placement than their peers. This has important implications for policy development at the school board and provincial level.

**Self-Regulation, Emotions, and Sensory Processing**

Children with autism can experience difficulty regulating their behaviours and emotions. Roughly half of individuals with ASD have co-morbid alexithymia, the inability to identify and describe the emotions one is experiencing (Berthoz & Hill, 2005, as cited in Gaigg, Cornell, & Bird, 2018). Children with HFA have a limited emotional vocabulary (Attwood, 2007) and need considerable adult support during unstructured contexts to express their feelings when communicating (Lee et al., 2018). They may experience a disconnect from their bodily sensations and can benefit from being explicitly taught mindfulness and introspection in order to develop a better understanding of their emotional state (Gaigg et al., 2018), especially as they may not be aware of the build up of stress or other strong emotions leading up to an emotional meltdown (Attwood, 2007).
A well-documented feature of many children with ASD is unusual sensory processing and they can be either hypo- or hyper-stimulated by various stimuli (Attwood, 2007; Chistol et al.; 2018). Chistol et al. (2018) explain sensory processing as “the ability to register, process, and organize sensory information and to execute appropriate responses to environmental demands” (p. 584). Hyperstimulation can lead to sensory overload, rigidity, and complete avoidance of sensations that cause significant discomfort and fear while hypo-stimulation can result in undetected or worsened injuries (Attwood, 2007), although evidence suggests that sensory integration interventions may have a positive impact on children with autism (Kashefimehr, Kayihan, & Huri, 2018; Pfeiffer, Koenig, Kinnealey, Sheppard, & Henderson, 2011).

Not surprisingly, children with HFA do not have well-developed coping or problem-solving skills, and hence they respond to anxiety or frustration with what appears to be the behaviour of a much younger child (Attwood, 2007). These behaviours can be challenging for teachers and peers to understand and can run the gamut from resisting a simple instruction to tantrums to complete withdrawal when they are overwhelmed. However,

Educators must recognize that some behaviors, like interruptions and sustained focus on one topic long after the class has moved on, are not personality flaws but reflections of brain function; children with AS have rigid cognitive patterns and difficulty changing their line of thought. (Safran & Safran, 2001, p. 388)

Adults may not initially understand what caused an unexpected reaction and must help the child to problem-solve once calm in order to develop improved coping skills in the future (Attwood, 2007; Myles & Simpson, 2001).

Further impacting their ability to self-regulate are high levels of anxiety, and as with any child, anxiety can mask their full potential. Youth with HFA have a significantly higher risk of
anxiety disorders, depression, and suicide in their adolescent years than their typically
developing peers (Ashburner, Ziviani, & Rodger, 2010; Mukaddes & Fateh, 2010). Spratt et al.
(2011) found that children with HFA demonstrated elevated cortisol levels in response to
stressful and novel situations and for a prolonged duration after these events when compared to
typically developing peers. Prior studies indicated similar stress levels in response to the
demands of the school environment or in peer interactions (Corbet et al., 2010, Richdale & Prior,
1992, as cited in Spratt et al., 2011). Considering that they are surrounded by social dynamics
they do not fully understand yet are expected to know, Attwood (2007) cautions that:

One of the problems faced by children with Asperger’s syndrome who use their intellect
rather than intuition to succeed in some social situations is that they may be in an almost
constant state of alertness or anxiety, leading to a risk of mental and physical exhaustion.
(p. 17)

This has implications for both teaching and student learning and may necessitate breaks and
other anxiety-reducing measures to be embedded into the instructional day.

Language Processing

Attwood (2007) notes that many children with HFA are first diagnosed with a language
delay. However, there are very few longitudinal studies on the development of language abilities
in children with HFA. Gernsbacher and Pripas-Kapit (2012) believe verbal intelligence quotient
scores overestimate the language abilities of individuals with HFA and mask deeper problems
with language comprehension (as cited in Kalandadze, Norbury, Nærland, & Næss, 2018).
Despite often possessing exceptional vocabulary and syntax, children with HFA encounter
difficulty with the social elements of language, known as language pragmatics (e.g. Dennis et
al., 2001, Happé et al., 1993, 1994, as cited by Kalandadze et al., 2018). They may also have
trouble with conversation skills, understanding and remembering oral instructions, processing speed, and attending with background noise and surrounding stimuli competing for attention (Attwood, 2007).

In school, much of the learning, formal and informal, is expected to be absorbed through auditory processing. Children with HFA may be able to process auditory input better when looking away from the speaker (Atwood, 2007), which is not always understood by others, creating additional social challenges. Hurlburt, Happé, and Frith (1994, as cited by Attwood, 2007) asked individuals with and without HFA to wear a device that would beep periodically over several days. When signaled, the participants had to stop and record their thoughts. When describing what they were thinking, neurotypical people described thoughts using speech, emotions, body feelings, and visuals. Individuals with HFA conveyed thoughts mostly through images, demonstrating a preference for visual rather than language-based thinking. In the intimate social environment of the classroom, this may be problematic, especially in the absence of non-verbal alternatives for communication or self-expression.

Individuals with HFA may tend to interpret language at a literal level. A meta-analysis of figurative language comprehension studies in individuals with ASD found that metaphors were particularly difficult to comprehend, though results are mixed on understanding of irony or sarcasm, perhaps due to different comprehension processes required or to potential variances in ability from individual to individual (Kalandadze et al., 2018). Kalandadze et al. (2018) emphasize it is important to continue using and explaining figurative language to increase comprehension, rather than avoiding figures of speech, and to consider developing interventions that work on both core language and social development.
Despite average to above-average cognitive abilities, many children with HFA find reading and writing to be challenging. A recent meta-analysis (Finnegan, E. & Accardo, 2018) found that students with ASD had significant differences in length, legibility, handwriting size, speed, spelling, and overall written structure compared to peers, and this is particularly true of those who have a comorbid diagnosis of ADHD (Zajic et al., 2018). Some studies indicate that children with HFA may also be at a greater risk for reading comprehension problems (e.g. Ricketts et al., 2013, as cited by Zajic et al., 2018). Zajic et al. (2018) hypothesize that “if reading and possibly writing problems in school-age children with ASD reflect ongoing problems of their social cognitive phenotype, then the development of effective school-based interventions for these problems may have positive impacts on core components of ASD during their years at school (Randi et al., 2010)” (p. 254). Unfortunately, despite increasing numbers of students with autism enrolled in the school system, research into the implications of HFA for learning and academics is sparse.

**Strengths**

It is important to note that, although the diagnostic criteria frame autism in deficit-oriented language, people with autism can have significant strengths, talents, and areas of expertise. One feature of ASD is the presence of interests of unusual intensity (APA, 2013). When interviewing older adults with a late diagnosis of HFA, Hickey et al. (2018) heard how their tendency to seek solitary pursuits not only contributed to their feelings of safety but allowed them mastery in their area of interest. Children with HFA can have remarkable talents and abilities, which can become expertise in a subject area, mastery of a hobby, or the development of a collection (Attwood, 2007). If encouraged, these strengths also have the potential to become future career paths. Anecdotally, I have met some remarkable young people with autism,
including a young man who sat down and began playing a church organ despite never having had a music lesson; a boy with an internal GPS-quality sense of direction and detailed knowledge of every public transit route in the city; a Grade 4 student with a university-level command of physics; a young girl who could code-break every password her parents set on devices, no matter how random; an intermediate student with a passion for 20th-century military history; and several students with exceptional visual memories which allowed them to remember the license plate of every staff member who parked at school or memorize their parents’ credit card numbers with a cursory glance.

Although children with HFA process information differently from their peers, people with HFA also have enhanced processing in other domains (Hill, 2004, as cited in Ten Eycke & Müller, 2018) and can often notice details and connections which others overlook and can work intensively for long periods of time on something they are interested in (Attwood, 2007). Should they find employment in a field they enjoy, these qualities can be a considerable asset to them (Attwood, 2007; Hickey et al., 2018). As Safran and Safran (2001) observe,

One of the unique aspects of individuals with AS, many of whom are cognitively gifted, is that they have the power to “think outside the box” and focus intently in a narrow sphere. If depression and isolation can be prevented or overcome, they have the potential to offer society dreams and discoveries as yet unimagined. However, if our educational system is unable or unwilling to meet the challenges of AS, we would be committing a crime of immense proportions; the next generation of Einsteins and Jeffersons might be lost. (p. 393)
Teaching to the strengths of students with HFA and showcasing their areas of expertise can enhance student motivation and potentially foster more positive peer relationships if peers see how much their classmate with HFA has to offer.

**Learning and Generalization**

Children with HFA have an uneven cognitive profile, and despite their intelligence, do not always do as well as expected academically (Attwood, 2007). While children with HFA may perform as well as neurotypical peers on a cognitive task, they use different cognitive mechanisms to think about and approach tasks (Ten Eycke & Müller, 2018). Attwood (2007) maintains that these students can benefit from extra support, special education services, and teacher understanding of their unique needs:

> Such individuals can have considerable difficulty learning cognitive skills in the ‘live’ social theatre of the classroom, where they have to divide their attention between the activities in front of them and the social, emotional and linguistic communication of the teacher and the other children (p. 126)

The social processes embedded in learning add a significant burden on the child with HFA, who must learn considerably more than the academic content being taught. Consequently, teachers must be aware of the need for explicit teaching, since children with HFA do not tacitly absorb information about what to do, either through experience or through watching others.

Teachers must also reflect on the “hidden curriculum” they expect students to know and consider to be common sense; and explicitly teach these rules and the reason for them so that children with HFA are not at a disadvantage (Attwood, 2007; Myles & Simpson, 2001; Smith Myles, Trautman, & Schelvan, 2004). Equally importantly, these hidden expectations need to be taught as flexibly as possible (Vermeulen, 2012), because students with HFA do not see the
nuances in situations and tend to rigidly adhere to a rule, once learned. Attwood (2007) explains how, over time, this explicit teaching can help students with HFA to better navigate in their interactions: “Gradually the person with Asperger’s syndrome can build a mental library of social experiences and social rules. The process is similar to learning a foreign language with all the problems of exceptions to the rule for pronunciation and grammar” (p. 92). Recommended strategies for aiding social learning include social stories, cartooning strips that focus on thoughts and feelings of others, specific praise for when the individual with HFA is meeting the social expectations, and utilizing their interests and talents to build relationships and increase motivation in the classroom (Attwood, 2007; Myles & Simpson, 2001; Stokes et al., 2017).

Children with HFA are not intrinsically motivated to do well at school (Attwood, 2007). Lovecky (2004) found that gifted children with HFA are rarely challenged to their intellectual potential, and while hyper-attentive to their preferred subjects, they may not conceal their lack of attention to other topics. Because children with HFA do not always see the big picture, they may not appreciate the importance of homework or less preferable school tasks, and may not consider why grades or learning a certain concept may have long-term rather than immediate benefits or usages. They may need more frequent breaks or additional incentives to try new activities or subjects that are difficult for them (Attwood, 2007; Stokes et al., 2017). The use of technology as a support has been shown to increase independence, reduce anxiety, and increase socialization (Hedges, Odom, Hume, & Sam, 2018).

Executive function impairments present an additional challenge beyond motivation, and for many students, learning may be easier in a classroom with less noise and more structure (Attwood, 2007; Stokes et al., 2015). The student with HFA will need support, encouragement, and structure to understand the steps to take to complete a task and stay on track. Individuals
with autism may have difficulty with generativity, or “the ability to generate or initiate an appropriate and novel response” (Ten Eycke & Müller, 2018), a concept first reported by Turner (1999) and in later studies, though debated by Barnard et al. (2008, as cited in Ten Eycke & Müller, 2018). They may need more assistance in tasks requiring greater creativity or critical thinking. Teachers may need to take more time to teach the organization of physical space and wording of assignments, and may need to give larger tasks in chunks, allowing for breaks and helping students to manage their time (Attwood, 2007; Myles & Simpson, 2001; Stokes et al., 2015). Students with HFA will benefit from incorporating visuals, videos and role plays into lessons; strategies to combat anxiety such as a visual schedule and opportunities for coaching what to do in structured and unstructured settings; as well as accommodations such as having written notes provided, use of graphic organizers, and the provision of written instructions in language they can understand (Attwood, 2007; Myles & Simpson, 2001; Stokes et al., 2015). Students with HFA have greater difficulty with pen-to-paper tasks and maintaining attention during lecture-style teaching, and can be more successful when presented with engaging, hands-on tasks which allow them to explore their interests and follow their curiosity. In short, teachers should consider how the student with HFA learns best and adjust their teaching and work products to benefit their learning style (Attwood, 2007).

Attwood (2007) maintains that the success of the student is contingent on the teachers, and that “[t]he teacher also needs access to training, in-class support, resources and expertise in Asperger’s syndrome to facilitate successful social integration and academic success. The child needs help and the teacher needs help” (Attwood, 2007, p. 15). A study by Stokes et al. (2017) provided further evidence of the importance of the teacher. They found that strategies that built
rapport between the teacher and students as well as a calm teacher temperament reduced student stress and made students with HFA more likely to succeed.

**Long-Term Outcomes for Individuals with HFA**

Individuals across the spectrum have unnecessarily poor outcomes across various domains including physical and mental health, employment and job stability, relationships, independence – including people with HFA (Baldwin, Costley, & Warren, 2014; Gal, Landes, & Katz, 2015; Hillier et al., 2018; Howlin, 2003; Lounds Taylor, 2017; Southby & Robinson, 2018). Often, individuals with HFA fail to meet the cut-off for autism supports based on level or age and there is minimal quantitative research about long-term needs of this population (Southby & Robinson, 2018). With more resources and support available for children and adolescents, this will remain an area of concern as this population reaches adulthood and beyond (Baker-Ericzén et al., 2018; Hickey et al., 2018; Hillier et al., 2018; Lounds Taylor, 2017). Researchers are beginning to investigate models of low-level support such as social groups, employment training, information hubs, and mentoring, as access to such supports are a predictor of quality of life for adults with HFA (Kamio et al., 2013, Renty & Roeyers, 2006, as cited in Southby & Robinson, 2018).

After high school, individuals with HFA are certainly capable of attending a post-secondary institution but may encounter a lack of supports or understanding on the part of faculty and staff (Cai & Richdale, 2016, Glennon, 2016, Roux et al., 2015, Tipton & Blacher, 2014, as cited in Hiller et al., 2018). Unfortunately, university accommodation policies are typically developed for students with other types of disabilities and are not designed to remediate social-communication weaknesses (Ames, McMorris, Alli, & Bebko, 2016). Dijkhuis et al. (2017) found that individuals with HFA in post-secondary reported feeling they had a
significantly lower quality of life than neurotypical peers and that the most critical areas of need included emotion processing and executive function skills. Sadly, more than 50% of recent high school graduates with autism have no participation in employment or post-secondary education, which is a significantly lower rate than any other disability group (Shattuck et al., 2012). Hopefully, as more individuals with autism enter adulthood, research in this area will be prioritized, which can lead to the development of necessary supports.

In the non-academic realm, adults with HFA have consistent and persistent deficits, particularly in social communication, which is a barrier to employment success (Attwood, 2007; Hillier et al., 2007, as cited in Baker-Ericzén et al., 2018). Research shows social abilities are often valued more than meeting job requirements in workplace settings, which puts them at a distinct disadvantage (Hurlbutt & Chalmers, 2004, Müller et al., 2003, as cited in Baker-Ericzén et al., 2018). Individuals with ASD had lower employment rates compared to other disability groups (Roux et al., 2015, as cited by Hedley et al., 2017), and individuals with HFA have worse employment outcomes than those with cognitive delays (Taylor and Seltzer, 2011, as cited in Baker-Ericzén et al., 2018). If they find employment, it is more often in part-time or infrequent positions for which they tend to be overqualified (Baldwin et al., 2014). Often, employed individuals with autism report feeling they do not receive the accommodations they need from employers and feel isolated from colleagues (Baldwin et al., 2014; Gal et al., 2015).

The long-term physical and mental health of individuals on the spectrum is similarly disheartening. Individuals with ASD are doubly likely to experience early mortality compared with the general population (Mandell, 2018). Vohra, Madhavan and Sambamoorthi (2017) conducted a retrospective data analysis looking at individuals with ASD from 2000-2008 who accessed Medicaid in the US, and found that 81% had psychiatric comorbidities, and overall, had
a higher prevalence of health conditions; significantly greater number of visits to doctors and prescription drug claims; as well as more expensive emergency room costs and health expenditures. Another study in California, conducted by Croen et al. (2015) not only found that adults with ASD had significantly higher rates of all psychiatric disorders, but the same was true of suicide attempts, and nearly 50 other medical conditions. The researchers speculated that their more demanding health needs may be due to sensory issues or poor bodily awareness that interfere with reporting or uncovering medical issues in time for preventative treatment.

Mental health concerns are considerable for this population. Cai, Richdale, Dissanayake, and Uljarević (2017) reported that rates of significant anxiety in children with autism were roughly 40%, which mirrored results in previous studies (van Steensel et al., 2011, White & Roberson-Nay, 2009, as cited in Cai et al., 2017). In the same study, Cai et al. stated that 36% of children with autism were clinically depressed. These concerns continue into adulthood, with between 25-75% of adults with autism experiencing significant anxiety, depression, and other psychiatric problems (Moss et al., 2015, as cited in Hickey et al., 2018). Depression affects up to 50% of individuals on the spectrum at some point in their lifetime (Hofvander et al. 2009, as cited in Hedley et al., 2017), though Croen et al. (2015) believe depression could be underdiagnosed in this population, as only half of their research participants who reported attempting suicide had been diagnosed with depression.

Rates of suicide attempts are estimated to be between 5 and 10 times greater than the general population (Croen et al., 2015; Hirvikoski et al., 2016, as cited by Mandell, 2018). Thinking about suicide can begin in childhood, affecting 11% of children with ASD (Mayes, Gorman, Hillwig-Garcia, & Syed, 2013) compared with 20% to 40% of adults with ASD (Hedley et al., 2017). Cassidy et al. (2014) found that 66% of adults with recently diagnosed
HFA had considered suicide (cited in Hedley et al., 2017). Suicide attempts were made by 4% to 7% percent of children with ASD (Mayes et al., 2013) compared with 15% of adults on the spectrum (Balfe & Tantam, 2010, as cited by Mandell, 2018). Individuals with HFA are significantly more likely to commit suicide than individuals with autism and a comorbid intellectual disability, with suicide as the leading cause of premature death amongst people with HFA (Hirvikoski et al., 2016, as cited by Mandell, 2018).

Despite these bleak statistics, it is significant to note that neoliberalism has also manifested in positive ways. Many organizations have jumped on the neurodiversity bandwagon in Canada and abroad to find that investment in a broader workforce is good for business. Corporations actively employing individuals with autism include CIBC, TD, and Shoppers Drug Mart in Canada (Roumeliotis, 2017), and Walgreens, Microsoft, Google, Hewlett Packard, Best Buy, and Ford in the United States (Bernick, 2016). A Danish foundation, Specialisterne, connects employers of organizations with workers with autism (Bernick, 2016; Roumeliotis, 2017). Its Canadian branch states its mission is to help “businesses and employers understand, value, and integrate the unique perspective and capabilities of people on the autism spectrum ...” (Specialisterne, 2013, para. 1). A software company in Germany, SAP, implements another employment program for individuals with autism in many countries (Erbentraut, 2015; Florentine, 2015). Its head, José Velasco, has stated that “if you can tap into perspectives that haven't been brought into the light before, then you can open up a whole new, richer, deeper and broader view of the world” (Florentine, 2015, para. 15). These are steps in the right direction.

**Teacher Preparation and Development in Ontario**

The Ontario education system is considered a high-performing school system on an international scale, based on factors such as educational policies, international test results,
educational attainment rates, commitment to equity, and investment in teacher preparation and
development (Darling-Hammond et al., 2017). Ontario has built in job-embedded capacity
building with induction for beginning teachers, a cycle of ongoing review of more experienced
teachers, and funded professional development initiatives. Ontario teachers are well-educated,
with many possessing a Master’s degree (Darling-Hammond et al., 2017).

In 2015, Ontario transitioned to a mandatory 2-year education program which effectively
doubled the amount of coursework and practice teaching in classrooms (Darling-Hammond et
al., 2017; Ontario College of Teachers [OCT], 2017). With fewer graduates coming out of
mandatory 2-year programs, unemployment of new teachers is lower than in previous years
though a majority of first-year teachers report piecework jobs and it can be years before finding a
permanent teaching position (OCT, 2017). In Ontario, beginning teachers in English-speaking
boards must go through a process of supply teaching and short-term positions in order to become
eligible for long-term assignments and eventual permanent positions (OCT, 2017).
Unfortunately, supply teachers in Ontario felt they had limited access to collaboration with
school staff and mentorship opportunities (OCT, 2017).

Ontario offers a New Teacher Induction Program (NTIP) to beginning teachers in a
permanent or long-term position during their first 2 years, which incorporates mentorship,
professional development opportunities and at least one formal evaluation by administration
revealed they placed high value on the opportunity for mentorship and observation of other
teachers at work. More than two-thirds of these beginning teachers reported they had elected to
complete an additional qualification course in their first year.
Effective education systems continue to support growth at all stages of a teacher’s career (Darling-Hamond et al., 2017). Teachers’ organizations in Ontario invest a considerable amount in professional development for teachers and school boards also offer professional development, particularly related to new initiatives from the Ministry of Education (Darling-Hammond et al., 2017). Research on professional development needs of teachers suggests the traditional 1-day workshop is less effective for teachers (Darling-Hammond, 2005; Hunzicker, 2011; Vernon-Dotson et al., 2011; Zepeda, 2012). Hunzicker (2011) describes some barriers to teachers fully benefiting from a limited duration presentation as teacher worry about being away from the classroom as well as difficulty being able to remember and apply content. Teachers learn best when the professional development, whatever the form, is relevant to teachers and their goals and gives them a voice in their learning (Beck & Kosnik, 2014; Hunzicker, 2011; Tienken & Stonaker, 2007, as cited in Zepeda, 2012). Furthermore, practices will change only if teachers view new strategies as easy to implement and likely to improve existing conditions (Hannay, 2011). Zepeda (2012) posits: “Teachers want professional development that helps them become better professionals, engages them intellectually in the topic, and has immediate application to the work they do with students” (p. 3) and this may take the form of coaching, mentoring, or professional learning groups. Effective professional development also happens through conversations and personal interactions with colleagues (Beck & Kosnik, 2014).

The literature suggests that a culture of learning fostered from the top down is another factor influencing teacher professional development (Beck & Kosnik, 2014; McLaughlin, 2011; Vernon-Dotson et al., 2011; Zepeda, 2012). The most effective professional development tends to be small groups meeting over time (Groundwater-Smith et al., 2013; Hunzicker, 2011; Zepeda, 2012) with feedback given on an ongoing basis (Zepeda, 2012). Job-embedded professional
development with a practical focus on what to do to improve student learning may be most appealing to teachers (Hunzicker, 2011; Zepeda, 2012). The ultimate aim should be to build capacity of teachers (Darling-Hammond, 2004; Zepeda, 2012). In Ontario, experienced teachers have access to the Teacher Learning and Leadership Program (TLLP) which encourages self-directed learning related to student needs and leadership opportunities to share teacher learning more broadly (Darling-Hammond et al., 2017; Lieberman, Campbell, & Yashkina, 2015). Over the past decade, the Ontario Ministry of Education has also promoted professional learning groups through collaborative teacher inquiry (Darling-Hammond et al., 2017; Kutsyuruba, Christou, Heggie, Murray, & Deluca, 2015). Kutsyuruba et al. (2015) found some of the challenges of collaborative inquiry were the impact on support personnel and long-range plans; time; cost to release staff or purchases related resources and technology; and conflicting priorities.

Despite such challenges, an annual survey of members of the Ontario College of Teachers (Gottlieb, 2012) reported that teachers are motivated to understand and respond to student needs, and spend an average of 100 minutes per week on independent research to meet those needs. These respondents ranked the usefulness of six types of professional development, assigning a mark of highly useful to professional literature (66%), staff meetings (60%), participation in a professional learning community (56%), independent research or inquiry (56%), school-wide professional development (55%), and board-wide professional development (49%). A longitudinal study by Beck and Kosnik (2014) found that teachers identified informal learning opportunities as most valuable, including talking to other teachers.
Teacher Professional Development Needs in Special Education

At the pre-service level, improved preparation focusing on the reality of managing different needs in a classroom would benefit new teachers and future students alike. While most pre-service programs offer general survey courses of exceptionalities, research shows that teachers and pre-service teachers feel they need more support in instructional strategies and understanding of diagnoses (Able et al., 2015). The Transition to Teaching survey (OCT, 2017) revealed that the majority of first-year teachers graduating from an Ontario university teacher training program enjoyed their program but felt unprepared to meet many needs, including teaching students with exceptionalities and teaching special education. More experienced general educators wished their pre-service programs had provided more hands-on experience with exceptional students (Able et al., 2015). In their recent educational recommendations to the provincial government, the Ontario Autism Coalition (OAC, 2017) called for improvements to training in special education for teacher candidates as part of the new 2-year program, including a mandatory special education class and at least one teaching placement in a special education setting: “Teacher candidates should graduate knowing that they will work regularly with students with exceptionalities—and they should embrace this opportunity rather than fear or avoid it” (p. 5). Avramidis and Norwich (2002) cited numerous studies that indicated that training about special needs of students resulted in more positive attitudes at both the pre- and in-service levels (e.g. Shimman, 1990; Beh-Pajooh, 1992; Dickens-Smith, 1995; Van-Reusen, Shoho & Barker, 2000).

Beck and Kosnik (2014) found that teachers entering the profession were shocked by the range of learning needs in their class. Not surprisingly, the recommendations of the OAC (2017) also called for training in exceptionalities for occasional teachers, given the difficulty of walking
into a classroom and being expected to meet the needs without necessarily having information about each student. Ongoing learning in special education and adaptive instruction is a global need; all 18 countries participating in the 2009 Teaching and Learning Survey reported that supporting exceptional students was an area of “essential ongoing teacher learning” (Kosnik, Beck, & Goodwin, 2016).

**Teacher Professional Development Needs Related to HFA**

Several studies have shown that the most important factor affecting teacher motivation to teach students with autism is the quality of pre-service programs (Douglas, Forlin, & Hattie, 1996, Harvey, 1985, Lambe & Bones, 2006, as cited in Busby et al., 2012). A quantitative study by Leblanc et al. (2009) examined the impact of a 3-hour professional development on autism within a bachelor of education program in Ontario. After 2 months, teacher candidates involved in the research completed a post-test and results indicated that teacher knowledge of autism and teaching strategies as well as comfort levels with having a student with autism in their classroom had increased. Participants felt better equipped to access relevant supports. This suggests that a solid foundation at the pre-service level would help support beginning teachers entering the classroom.

Despite progress in educational policies and greater public awareness of this condition, teachers do not usually receive any formal professional development on HFA and its implications for the classroom (Safran & Safran, 2001; Myles & Simpson, 2002; Barnhill et al., 2011; Lambe, 2007, Rosenweig, 2009 as cited in Busby et al., 2012; Able et al., 2015). Nor is there a significant body of research on educational interventions by teachers to support students with HFA (Stokes et al., 2017). Busby et al. (2012) found that general educators felt unprepared to teach children with autism and felt students would be better served by a teacher with an autism
specialization. This was particularly true in rural areas where autism is less diagnosed, fewer resources are available, and teachers lack experience with this population. In a recent study on teachers and their experiences with and thoughts about students with HFA, Linton et al. (2015) surveyed teachers with a web-based questionnaire and compared experience level teaching children with HFA and a list of five words teachers generated to describe these students. Teachers with more experience and training tended to write inclusive words reflecting strategies and accommodations, while teachers without experience with students with HFA focused on behaviour, different thinking, and difficulties. The researchers predicted that teachers without training in HFA may form a biased picture of these students. Research from Canada (Corkum et al., 2014), USA (Able et al., 2015; Busby et al., 2012), the UK (Emam & Farrell, 2009; Guldberg, 2010), Turkey (Ergül et al., 2013), and China (Huang & Wheeler, 2007) suggest that although teachers acknowledge the importance of ongoing training on autism to improve practices, they report lack of support or meaningful professional development opportunities and feel unable to meet the existing needs. Teachers involved in the research of Stokes et al. (2017) reported that, without an understanding of HFA, they felt less prepared and were more likely to use ineffective strategies.

Some research exists on the relationship between supporting students with autism and teacher self-efficacy, or “the beliefs teachers hold regarding their capability to bring about desired instructional outcomes” (Ruble, Usher, & McGrew., 2011, p. 67). A study by Ruble et al. (2011) found that increasing teacher self-efficacy in the area of autism could reduce teacher burnout. Siu and Ho (2010) found that when 115 special educators were given training in specific techniques to address needs of students with autism, their sense of self-efficacy increased. Researchers hypothesized this would also decrease teacher burnout rates. Hinton et al.
(2008) evaluated whether a 1-day workshop and materials would increase teacher confidence in managing students with HFA 6 weeks later. Compared with the control group, teachers who received training reported a decrease in overall student behaviours, although not in severity. However, these studies do not delve deeply enough to understand the intricacies of classroom teaching and learning. Limitations include a lack of teacher feedback related to findings, no long-term follow-up, and training that was generalist rather than one-on-one coaching. Research methods in existing studies used to measure teacher self-efficacy included limited duration focus groups, surveys, questionnaires, rated statements or scales (Able et al., 2015; Corkum et al., 2014; Ruble et al., 2011; Siu & Ho, 2010).

There remains a dearth of educational research and HFA as it relates to teachers. I found no studies of teacher training initiatives on HFA which occurred on an ongoing basis or which were responsive to teacher needs. What is evident from the literature is that teachers want and need meaningful opportunities to learn about these students in order to effectively support them.

Chapter Summary

The purpose of this chapter was to present the literature drawn upon for this research study. I aimed to situate the study within the field of autism, with consideration to autism prevalence, diagnostic practices, causes, and interventions; the Ontario education system, particularly its inclusive education mandate and policies related to autism; the needs and characteristics of children with HFA, their classroom presentation, and long-term outcomes; and teacher preparation and development in Ontario, with attention to special education professional development needs and prior studies of teacher learning and HFA. It was evident through the research that many facets of autism, including appropriate interventions over the lifespan of individuals with autism or HFA, are under-researched, leaving teachers unprepared to meet the
needs of this population of students. Teachers need access to ongoing professional learning opportunities which are relevant to them and build their capacity for adaptive instruction while increasing their overall sense of self-efficacy.

In the subsequent chapter, I review the methods used in this research. I state the rationale for the research methodology, data collection, and analysis methods used within this study. Research limitations and ethical considerations are outlined.
Chapter 3: Research Design and Methodology

The impetus for my study was to better understand teacher knowledge of HFA in the classroom and their perception of supports and professional development needs. By seeking the perspective of general education teachers and exploring their experiences and practices with students with HFA as well as their thoughts on professional development, I sought to learn how to better equip teachers to meet the needs of this population. Their insights could lead to hypotheses for future critical inquiry on student experiences of the educational system.

This research was also designed to address a perceptible gap in the literature. While there was some existent research on teacher professional development and ASD, the studies (Able et al., 2015; Corkum et al., 2014; Ruble et al., 2011; Siu & Ho, 2010) were quantitative and were limited by a lack of teacher feedback related to findings, no long-term follow-up, and generalist training that neglected teacher-specific needs. Similarly, research methods neglected teacher voice, and included limited duration focus groups, surveys, questionnaires, rated statements or scales. In essence, they evaluated the efficacy of the offered professional development, rather than asking teachers specifically about their own perceived needs. For me, it presented an avenue for qualitative research and an opportunity to delve deeper in order to glean the intricacies of classroom teaching and learning as it relates to supporting students with HFA.

Within this chapter, I explore the methods used in my research study. Firstly, I discuss the purpose of qualitative research methods and its relevance to this study. In the second section, I outline my use of case studies. Thirdly, I share how I selected participants for this study. The fourth section examines data gathering, analysis, as well as credibility and crystallization. The fifth and sixth sections explore limitations and ethical considerations relating to the research.
Qualitative Research Methodology

Qualitative research seemed, to me, the appropriate choice for a study of teacher insights into their own experiences. My primary goal was to understand teachers’ perceptions of HFA and supports they and their students might benefit from in their classrooms. Qualitative research is interpretive in nature, allowing the researcher to piece together and explore perspectives of participants and the meaning they attribute to their experiences (Denzin & Lincoln, 2007; Merriam & Tisdell, 2014). Qualitative research also recognizes the role of researcher subjectivity in interpretation (Charmaz, 2014; Kvale & Brinkmann, 2009; White & Cooper, 2015). The strengths of qualitative research lie in its ability to elucidate the ‘how’ and ‘why’ of phenomena, particularly when the distinction between the context and variables are unclear (Merriam & Tisdell, 2014; Trainor & Graue, 2014). As articulated by Rubin and Rubin (2005), “Overall, qualitative interviewing requires more intense listening than normal conversations, a respect for and curiosity about what people say, a willingness to acknowledge what is not understood, and the ability to ask about what is not yet known” (p. 13). Unlike quantitative research, a qualitative approach can generate unforeseen lines of inquiry throughout the process (Charmaz, 2014). Qualitative researchers may approach their research from numerous angles, including – but not limited to – artifacts, texts, observation, reflective journals, autobiography, interviews, and case studies. Whatever their means, they seek immersion in the complexities of a problem within a specific context, rather than broadly generalizable explanations.

Essentially, the final product is not a “how-to” manual, but an Impressionist painting, capturing a particular setting, time, and atmosphere in the artist’s vivid strokes. From my vantage point, a qualitative research methodology would give me the flexibility to use my guiding research questions as “points of departure” (Charmaz, 2014), or channels to explore which might...
ebb and flow in response to knowledge gleaned from participants, eliciting richer and more descriptive responses.

**Multiple Case Studies**

For my study, I chose to organize and capture my participants’ perspectives at this moment in time through a multiple case study analysis. A case study is an approach to inquiry which enables the researcher to explore participant perceptions of a phenomenon. Creswell (2014) suggests that case studies allow the researcher to deeply investigate “a program, event, activity, process, or one or more individuals. The case(s) are bounded by time and activity, and researchers collect detailed information” (p. 290) in order to provide a vivid description of each case and its setting. Data gathering may also include other sources of information, such as observation, document analysis, and formal or informal interviews. Various data sources can yield rich, detailed descriptions of each case, their context, and how meaning was derived within that context (Charmaz, 2014). For my study, I relied on interviews and a researcher journal. As this study focused on teacher insights, rather than teacher practices, it did not employ observation of teachers in their classrooms.

A multiple case study design was chosen for this study in order to add greater substance and deeper understanding to researcher interpretation (Merriam & Tisdell, 2014). A multiple case study includes more than one case to be presented and described in context. The purpose of a multiple case study “is to be able to generalize to broader processes, to discover causes, and to explain or understand a phenomenon” (Rubin & Rubin, 2005, p. 7). To delve more deeply into the how and why, cases are analysed for common themes in two stages: within each individual case, which helps the researcher to recognise the unique contextual elements of the case; and then across all cases (Merriam & Tisdell, 2014; Yin, 2011). In the second stage, cross-case
analysis “attempts to build a general explanation that fits all the individual cases” (Merriam & Tisdell, 2014, p. 199). My case studies included the accounts of 5 general educators from a range of experience levels, who came from different systems, and who were willing to discuss their experiences teaching and supporting learners with HFA. After lengthy interviews, I was able to compare and contrast all 5 cases, identifying commonalities and differences in their experiences, beliefs, and vision for an ideal educational system. Although the intent remained to understand specific experiences and needs of general educators in their individual contexts, rather than to broadly generalize needs of all educators, I hoped cross-case analysis would have some implications for the educational community, professional development needs, and future research directions.

**Participant Selection**

My research involved elementary school general education teachers who all taught in different boards across Ontario, Canada. Most taught in publicly funded systems, while 1 participant spoke to her experiences in a private school setting. When considering selection of participants, I was interested in speaking with teachers who represented a range of experience levels in working with students with HFA in the general classroom. After developing a semi-structured interview guide, I received institutional ethical approval from the University of Toronto to proceed with my research.

While initially I hoped to interview participants whom I knew worked with students identified with HFA through my school board and to interview them before and after providing professional development on HFA, I ultimately chose to solicit potential research participants with whom I had no prior relationship. I felt this decreased the likelihood of participants shaping their answers to please me. I used purposive sampling to select research participants. All
potential participants were recruited by word-of-mouth through peers at the Ontario Institute for Studies in Education at the University of Toronto. Selected participants were asked whether they met the following criteria:

1. Recent experience as a general education teacher at the elementary level;
2. Experience teaching at least one student with a diagnosis of HFA;
3. Willingness to rank their experience and comfort level teaching students with HFA; and
4. Interest in sharing their thoughts on their experiences, desired supports and professional development needs and preferences related to HFA.

An information and consent letter outlining the details of my study was given to participants who expressed interest in the study (see Appendix A). They were asked to read it, and if still interested, to communicate their experience and comfort level teaching students with HFA in order to facilitate the selection of participants across a range of experiences. My aim was to stratify potential participants by a specific characteristic (e.g. experience level with students with HFA) and select those who proportionally representing the range of experiences. I considered ‘experience’ to be a self-reported level of comfort or experience with students with HFA, rather than a specific demographic requirement such as years taught. My goal was to find one teacher who ranked their comfort and experience level as very high, one teacher who reported low comfort and experience, and three teachers who fell somewhere in the middle. In order to minimize the impact of self-selection bias (Robinson, 2014), I chose these categories to avoid interviewing only participants with high confidence in their ability to support students with HFA, as in my working experience, many general education teachers do not have a high degree of knowledge of HFA and are, consequently, less comfortable meeting the needs of these students. My study was designed on the premise that it was these teachers who would have the
most insights to share about their own professional development needs and ideal supports in the
general education classroom. The only interested candidates whom I declined to interview had
significant and recent experience in autism-specific settings rather than the mainstream
classroom and, so, did not meet my first criterion. During various stages of the recruitment,
selection, and interview process, participants were informed that their participation was entirely
voluntary and that they had the right to withdraw from the study at any time or to decline to
answer any questions without penalty. Ultimately, 5 consenting participants were identified who
agreed to be interviewed at a time and place of their choosing. All interviews took place off
school premises and consent forms were received prior to conducting the interviews.

A small sample size enables a researcher to gather a richer level of detail from each case
and to keep all cases in mind, which is necessary for analysing across cases and while
comparing, in some way, with the researcher’s understanding of the existent literature (Crouch,
2006). Creswell (2014) suggests four or five participants are typical for case study research.
Robison (2014) states that a smaller sample size of interview participants “provides scope for
developing cross-case generalities, while preventing the researcher being bogged down in data,
and permitting individuals within the sample to be given a defined identity, rather than being
subsumed into an anonymous part of a larger whole” (from Robinson & Smith, 2010, as cited on
p. 29). For practical reasons, I opted for the higher number, thinking it would be beneficial in
case a participant should choose to withdraw from the study at any point. However, I also
maintained that I could use my judgment throughout the study, as with grounded theory, a
researcher must remain flexible during data analysis, which happens concurrently with data
collection, until they feel confident they have reached a saturation point, or a point at which it is
unlikely any significant new insights will emerge from additional data sources (Robinson, 2014; Strauss & Corbin, 1998).

All participants were female teachers with experience teaching in elementary classroom environments. They had been teaching for between 4 and 31 years. One teacher had recently retired and another was on maternity leave at the time of our interview. Of the 5 participants, 3 had recently taught or were currently teaching at the primary level. Two were currently teaching at the junior level. Only 1 participant had been involved in professional development related to HFA. All 5 participants reported they had taught at least one student with a diagnosis of HFA in the general classroom setting, though throughout the interviews, most participants also speculated about other students without a diagnosis but who they felt displayed characteristics of HFA. During the selection process, participants were asked to share their comfort/experience level in working with students with HFA. During the interviews, participants were specifically asked about how knowledgeable they felt about the needs of students with HFA on a scale of 1 to 10 and also how confident they felt in their ability to support students with HFA (see Table 1).
Table 1

Participants’ Backgrounds

<table>
<thead>
<tr>
<th></th>
<th>Chivonne</th>
<th>Leah</th>
<th>Tanya</th>
<th>Jill</th>
<th>Evelyn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years Teaching</td>
<td>4</td>
<td>7</td>
<td>14</td>
<td>5</td>
<td>31</td>
</tr>
<tr>
<td>Divisions Taught</td>
<td>kindergarten, primary</td>
<td>junior, intermediate, senior</td>
<td>kindergarten, primary, junior, prep coverage</td>
<td>primary, junior, literacy and math support, special education</td>
<td>primary, intermediate, senior, adult education</td>
</tr>
<tr>
<td>Most Recent Placement</td>
<td>gr. 2/3 class</td>
<td>gr. 5/6 class</td>
<td>gr. 6 class</td>
<td>gr. 1 class; currently on maternity leave</td>
<td>gr. 1 class; recently retired</td>
</tr>
<tr>
<td>Specific PD on HFA</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Students Taught with Characteristics of HFA</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Students Taught with HFA Diagnosis</td>
<td>5-6</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Initial Identified Comfort/Experience Level with students with HFA</td>
<td>“pretty comfortable”</td>
<td>“very experienced”</td>
<td>“no experience”</td>
<td>“not a ton of experience”, “average comfort”</td>
<td>“a few experiences”</td>
</tr>
<tr>
<td>Rated Knowledge Level (1-10)</td>
<td>5-6</td>
<td>9-10</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Rated Confidence Level (1-10)</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>6-7</td>
<td>8-9</td>
</tr>
</tbody>
</table>

Notes. Pseudonyms are used for all participants in this study.

Data Collection Tools

Within a qualitative research study, variety in data sources can enhance depth and credibility by adding to the insights gleaned from participants alone. It allows for a “vertical” analysis (Crouch & McKenzie, 2006) where the researcher can analyse emergent themes not only across cases but across their own experiences and the existent literature. As Crouch and McKenzie (2006) assert, “For the depth to be achieved, it is much more important for the
research to be intensive, and thus persuasive at the conceptual level, rather than aim to be extensive with intent to be convincing, at least in part, through enumeration” (p. 494). Keeping this in mind, I collected data from the following sources:

1) five in-depth semi-structured interviews;

2) a researcher journal; and

3) as needed, additional discussions and/or e-mail contact to clarify comments or to probe for more details on emerging themes.

Each of these tools and its relevance to this study is discussed in the following section.

**Interviews.** In the realm of qualitative research, interviews are frequently used as a data collection method (Crouch & McKenzie, 2005). They are particularly helpful in exploratory research where the researcher has not yet identified critical variables to be studied (Cresswell, 2013). Interviews come in a variety of forms. Highly structured approaches, such as surveys or a set list of questions, tend to quantify findings within a sample population to generalize to a larger sample (Creswell, 2013) or are used within qualitative work to find out demographic information (Merriam & Tisdell, 2015). Unstructured interviews are in-person conversations without a set list of questions, and is used when the researcher does not yet know what is relevant to the issue being studied (Merriam & Tisdell, 2015). Semi-structured interviews have a guiding list of questions without a set order or precise wording, and enable the researcher to ask additional questions, skip items, and respond to what the participant is sharing (Merriam & Tisdell, 2015).

Semi-structured interviews are a natural fit to unpack the beliefs, thoughts, and experiences of people participating in the research and the meaning they attribute to their lived experiences. Kvale and Brinkmann (2009) explain that “[t]he qualitative research interview attempts to understand the world from the subjects’ point of view, to unfold the meaning of their
experiences, to uncover their lived world prior to scientific explanations” (p. 1). Face-to-face interviews have the ability to capture a level of detail and surprising findings that are not possible through surveys or other quantitative methods.

Interviews involve both the interpretations of participants and of the researcher. Kvale and Brinkmann (2009) and Charmaz (2014) view interviews as a social process in which knowledge is co-constructed between the interviewer and interviewee. How the story unravels is influenced not only by the teller but by the listener (Crouch & McKenzie, 2006). The dialogic nature of interviews may run the risk of interviewer bias, concerns around whether the researcher’s interpretation is credible, and the impact of differences in rapport between the researcher and the participants on data (Crouch & McKenzie, 2006). These criticisms of interviews are readily acknowledged and addressed by qualitative researchers, as they understand that interpretive work is just that – an interpretation, and that truths are not universal but closely tied to case and context. The potential benefits unique to interviewing include researcher responsivity to new themes and avenues for discussion, the ability of the researcher to probe for depth, and the generation of new ideas or self-understanding of participants. As Rubin and Rubin (2005) state,

Though ordinary life roots you in one position, when you are interviewing, you see life in the round, from all angles, including multiple sides of a dispute and different versions of the same incident. Observing life from separate yet overlapping angles makes the researcher more hesitant to leap to conclusions and encourages more nuanced analysis. Qualitative interviewers explore new areas and discover and unravel intriguing puzzles. This search for answers keeps the researcher's imagination fresh and his or her work exciting. (p. 4-5)
The interpretive nature of qualitative interviews is enhanced through researcher reflexivity.

**Interview design.** My research study utilized interviews as the primary method of data collection because I was interested in hearing the insights and experiences of different general educators as they related to HFA. I hoped to hear from them about the challenges and successes they had encountered, questions they had, and what they had discovered to be best practices in their inclusive classroom environments. I also wanted to learn their perspectives on effective professional development for teachers and what they would value most as educators.

When considering interview format, I chose to implement semi-structured interviews. Charmaz (2014) refers to these as intensive interviews, which combine flexibility with control, ask open-ended questions to generate detailed responses, allow for exploration of unanticipated themes, and glean a deeper understanding of participant world view and experiences. Follow-up questions were an important component, and presented an opportunity to discover new lines of inquiry or to probe for greater reflection, as well as verifying my understanding. After determining their suitability for the study, I interviewed participants during the 2017-2018 school year. Interviews took place off school sites at a time and place specified by the participants, in an effort to make them feel comfortable. This included homes and coffee shops.

The interview guide was created after reviewing common themes identified within the literature (see Appendix B). Pre-written questions acted as a guide only and were asked in an open-ended, responsive manner. They were phrased in different ways and often came up in a different order, where it seemed to flow naturally. Additional questions were asked to clarify something said, to ask for an example or elaboration, or to pursue an interesting and unforeseen insight. Participants discussed their teaching background, their familiarity with HFA and experiences teaching students with HFA, their thoughts on professional development related to
HFA, and what classroom supports would look like in an ideal world. The interviews varied in length from 40 to 80 minutes and were recorded. I later transcribed each interview in order to have greater familiarity with the insights of each participant.

**Researcher journal and memo writing.** Numerous experts rely on reflective documenting by the researcher in qualitative research (Charmaz, 2014; Creswell, 2013; Lempert, 2007; Merriam & Tisdell, 2014). Charmaz (2014) recommends the use of methodological journal or memo-writing to record ideas, comparisons, and questions throughout the process and to reflect on one’s assumptions, interpretations, and gaps in analysis. Lempert (2007) describes memo-writing as “the fundamental process of researcher/data engagement that results in a ‘grounded’ theory. (2011, para. 1). Memos are invaluable to the researcher because they act as a preliminary form of analysis and are ongoing throughout the data collection and analysis phases (Charmaz, 2014; Lempert, 2007; Merriam & Tisdell, 2014). This tool can also aid in theoretical sampling, or definition and re-definition of theoretical categories. Lempert (2007) is a proponent of memos, because they are:

- the analytical locations where researchers are most fully present (Charmaz 1983), where they find their own voices, and where they give themselves permission to formulate ideas, to play with them, to reconfigure them, to expand them, to explore them, and ultimately to distill them for publication and participation in conversation with others. (para. 5)

Throughout my research and analysis, I documented my own ongoing thought process in memos within a researcher journal. Its pages were filled with questions scrawled in the margins, mind-maps of similarities and differences of the participants, diagrams of relationships, written paragraphs where I unfolded my understanding of what something meant, revised versions of
previous entries, and so on. It also was a place to reflect on connections to literature and to identify and refine patterns as they emerged.

**Data Analysis Using Grounded Theory**

Grounded theory is a qualitative research method first developed by Glaser and Strauss (1967) and which various researchers have refined and adapted over the last 50 years (Bryant et al., 2007). Originally conceptualized as “the discovery of theory from data systematically obtained from social research” (Glaser & Strauss, 1967, p. 2), grounded theory requires a researcher to continually engage with data so that analysis and data collection are interwoven and simultaneous and emergent theories are grounded in the data (Bryant et al., 2007). The “goal is to offer the reader a conceptual explanation of a latent pattern of behaviour that holds significance within the social setting under study” (Holton, 2007, para. 9). Instead of approaching research with a working hypothesis of what findings will be, the researcher must keep an open mind about what remains to be found.

One of its more modern iterations, known as Constructivist Grounded Theory (CGT), is described by Charmaz (2014) as a type of flexible analysis which enables the researcher to remain open to findings while coding and categorizing incidents from the emerging data. Analysis is seen as itself a construction, reliant on the researcher’s interpretation and located in the unique context being studied (Charmaz, 2014, 2017). Theorists posit there are multiple realities possible and which are co-constructed by the researcher and their participants. I chose CGT as my research data analysis because my aim was to theorize about teacher experiences and learning within a specific educational context. The power of CGT lies in its ability to elucidate the ‘why’ of the processes being researched: “Most qualitative research asks ‘what’ and ‘how’ questions. Grounded theory leads to ‘why’ questions and can locate the answers in the conditions
of their production” (Charmaz, 2017, p. 299). The researcher’s unique lens shapes the research as much as the participants do, requiring reflexivity about his/her relationship to the process, participants, and results. For this reason, I kept a researcher journal to help me to identify and reduce potential biases that I held as an experienced teacher in the field of HFA. I compared my evolving thoughts and theories with the data and clarified key themes with participants through ongoing conversations, if needed, and through member-checking. All participants were given the opportunity to read their transcript and their case study for verification.

In addition to its flexibility, grounded theory has the distinct advantage of being able to hone in on important themes through the process of continually comparing and refining theoretical categories – which can yield fascinating discoveries and illustrate relationships – until these are saturated and no new properties can be identified (Charmaz, 2014; Holton, 2007). I began my analysis after my first interview, using “open coding” (Strauss & Corbin, 1990) through which I identified initial key ideas that emerged from the thoughts and experiences shared by my first participant and then sorting them into general categories, such as “ideal support models”, “professional development needs related to HFA”, and “systemic barriers”. My preference for transcribing my own interviews gave me a more intimate understanding of the data and the dynamics within each participant’s context. I was able to stay engaged and mentally note similarities or differences between cases as I carefully transcribed each interview, which informed subsequent journal entries and concept mapping.

I marked up hard copies of transcripts with my identified codes and jotted thoughts or connections in the margins. After each additional interview, I applied the same process and wrote memos about the commonalities and differences across the cases. After my preliminary coding of each transcript, I reviewed my work and compiled a list of codes identified for each individual
case and was able to consolidate similar codes into a more specific code. I used “axial coding” (Strauss & Corbin, 1990) to constantly compare and connect data codes until I could identify more precise categories within cases. Then I was able to continue to check for patterns across cases. For instance, I noticed multiple participants reported feeling powerless because they believed decisions were often made based on cost rather than on the best interests of students (see Finding 2, Chapter 4). Throughout the process, I was able to expand, combine, delete, and refine categories into broader themes and compare how these connected with the literature. I then used “selective coding” (Strauss & Corbin, 1990) to focus on the main categories. I subsequently created an electronic spreadsheet of each category, cross-referenced with each relevant participant. This led to the creation of a separate electronic document for each category, in which I typed up corresponding quotes from the participants. I also re-read my researcher journal numerous times throughout the data collection and analysis phases. These steps enabled me to, once again, read all sources of data, consider any questions I had, ponder alternate relationships between concepts, and refine my theoretical categories into my final theoretical frameworks.

**Credibility and crystallization.** Reflecting the postmodern reality in which we live, Geertz (1973), Kvale and Brinkmann (2009), Richardson and St. Pierre (2005), and Charmaz (2014) recognise there is no objective truth and knowledge is relational and constructed. Geertz (1973) posits that the purpose of interpretive work “is not to answer our deepest questions, but to make available to us answers that others, guarding other sheep in other valleys, have given, and thus to include them in the consultable record of what man has said” (p. 30). Qualitative researchers filter interpretations through participants’ worldviews, which may be contradictory, inexact, and misinformed (Charmaz, 2014). Their research is contextual, subjective, and representative of its participants; hence, traditional conceptions of validity do not apply.
Instead, qualitative researchers ask themselves whether their conclusions are credible or plausible. They establish credibility by explaining their subjectivity (Charmaz, 2014, 2017; Geertz, 1973; Kvale & Brinkmann, 2009; Richardson & St. Pierre, 2005), considering power dynamics between researcher and participants (Charmaz, 2014, 2017; Kvale & Brinkmann, 2009), and collecting rich data from diverse sources (Charmaz, 2014; Geertz, 1973). Greater researcher involvement and intimacy with the data, as well as research reflexivity, is a strength which enhances reliability of the interpretation (Dreher, 1994, as cited in Crouch & McKenzie, 2006). Throughout my research I was cognizant of the fact that I bring my own strengths, beliefs, personal and professional narratives to my understanding of the world around me. I filter my worldview through the lens of an autism educator with a significant background in autism education and experience in an autism-specific classroom. Throughout my interviews, I needed to clarify with participants about their experiences in the general classroom and more traditional school structures which I had not necessarily experienced. In an effort to reduce potential bias, I continually asked myself questions in my memos about my own role, my preconceptions and assumptions, the interactions I had with participants, and whether or not my interpretation was credible, and whether alternate plausible interpretations existed.

To make their interpretation evident, researchers should utilize “thick description” (Geertz, 1973), which honours the complexity of the interactions between researcher and participant, conveying meaning beyond the transcribed text. Description brings focus, context, and narrative of each case study to life for readers. Kvale and Brinkmann (2009) refer to this as “thick ethical description” because it ensures researchers are accountable to present all findings, not just ones which illustrate their theory. “Because real life is composed of different perspectives that do not always coalesce, discussing contrary information ... the account becomes
more realistic and more valid” (Creswell, 2014, p. 252). This also arms the reader with the tools to check for accuracy and to consider transferability, a concept in which “the burden of proof lies less with the original investigator than with the person seeking to make an application elsewhere” (Lincoln & Guba, 1985, cited in Merriam & Tisdell, 2014, p. 214).

While quantitative studies seek validity through triangulation of data by finding an interpretation that fits multiple data sources (Creswell, 2013), qualitative researchers seek credibility through crystallization. Crystallization ensures integrity of qualitative data (Richardson & St. Pierre, 2005): “Crystals are prisms that reflect externalities and refract within themselves, creating different colors, patterns, and arrays casting off in different directions. What we see depends on our angle of repose” (Richardson & St. Pierre, 2005, p. 963). The qualitative researcher can also impose measures to increase the likelihood of data integrity and subsequent crystallization, such as seeking out informed consent, guaranteeing confidentiality, outlining possible consequences, and member-checking (Charmaz, 2014; Kvale & Brinkmann, 2009; Vetter et al., 2011), all measures used within this study.

As a researcher, my understanding is that my participants and I construct meaning through ongoing dialogue until it is “taken-as-shared” (Cobb, 1996, cited in Fosnot, 2005), or close to a common understanding. To ensure my research reflects knowledge which was “taken-as-shared”, I provided each participant with their transcript for verification purposes and a chance to review and provide feedback on their subsequent case study. Participants had the opportunity to corroborate whether my interpretation was representative of their views and accurately represented their beliefs and feelings. By drawing on interviews, follow-up conversations, transcript and case study verification, and my researcher journal I crystallized data, adding depth and greater integrity to my findings.
The goal of qualitative research, and of grounded theory, is to generate a theory rather than an absolute. As Glaser and Strauss (1967) indicated in their seminal work, ‘[t]he published word is not the final one, but only a pause in the never-ending process of generating theory’ (p. 40). Qualitative researchers set out to explore patterns of behaviour within a particular context and a plausible explanation for what they uncover (Crouch & McKenzie, 2006; Glaser & Strauss, 1967; Holton, 2007). As Crouch and McKenzie (2006) assert,

If, then, we accept that small-scale interview-based – and radically qualitative – research is intentionally conceptually generative, its findings (in the sense of last, rather than definitive) cannot escape the charge of speculation. Nor should they have to do so. It is in the nature of exploratory studies to indicate rather than conclude. (p. 492)

This study is a starting point, generating plausible explanations for teacher perspectives and experiences which may be indicative of further questions to explore. Research on HFA and teacher development may illuminate the complexities of teacher needs in context, raising important considerations and adding voices to discussions within schools, special services, and school boards. Ultimately this may suggest avenues for future research, practices, and policies for contexts beyond the school level, such as teacher education programs, special services departments, school boards, and the Ministry of Education.

**Limitations of the Study**

Within this study, there were a number of potential limitations. Firstly, the study utilized a small sample of participants. The 5 general education teachers shared some commonalities, including their gender identity, their professional status, and their roles as teachers in mainstream classrooms in the elementary school setting. They differed on years of experience as teachers,
age, ethnic and cultural backgrounds, and school board location and corresponding
demographics. Although valuable insights can be generated through small samples (Bryant et al.,
2007; Crouch & McKenzie, 2006; Robinson, 2014), it is not possible to generalize findings more
broadly. However, thick description adds depth and context that may still resonate with many
teachers and be indicative of issues compelling future inquiry.

A related limitation is the self-selection bias (Robinson, 2014). It is possible that only
teachers who were confident in their abilities to meet the needs of students with HFA
volunteered to take part in the study, which would inevitably influence findings of the study. As
a researcher it is difficult to control for this potential limitation. I sought participants who
reported a range of experience and comfort levels, but is remains a possibility that participants
were inaccurate in their self-assessments and that I missed significant voices which would have
contributed to the breadth of this study.

This study did not provide professional development to teacher participants in the area of
HFA, which could have potentially gleaned additional insights in a follow-up interview and
could capture any changes to the perceptions of teacher participants on supports needed for
students with HFA and on relevant teacher professional development topics related to HFA.
Given that, in this study, participants with greater knowledge of HFA also indicated that teachers
could benefit from more potential topics for inclusion in PD related to HFA (see Table 2), future
research studies should examine how teacher understanding of HFA changes following
professional development and what topics resonate with them.

Another important limitation to consider is the impact of the researcher on the interview
process. It is possible that my words, gestures, facial expression may have conveyed intended or
unintended messages than may have influenced what participants shared. It is likely that
participants were aware, based on my research intent and my introduction letter, that I felt very positively about students with HFA and that I saw the importance in professional development of teachers in this area. Participants may have felt motivated to provide answers they felt would resonate with me.

As always, a limitation in any research is also researcher bias. Using memos as a reflective tool and grounded theory methodology to guide my analysis may have helped me to understand my biases, but it remains a reality that any interpretation is only that and is filtered through the researcher’s experiences and worldview. My own professional and personal experiences with autism may have influenced how I related to participants with similar experiences, ideas, or belief systems.

**Ethical Considerations**

This study met the criteria for ethical review through the University of Toronto Research Ethics Board in May 2017. Participants were given a participant information letter and consent form. Both documents outlined their rights as participants, including the voluntary nature of the study; the ability to withdraw from the study or refrain from answering a question at any time; the right to have their identity remain confidential; and the researcher’s obligation to safely secure data or destroy data upon participant withdrawal. Participants all signed a letter of informed consent. To safeguard participant identities and personal information, pseudonyms were used throughout the study and within transcripts. Transcripts, recordings, and other documentation were stored safely in a locked facility or, if digitized, in secure electronic storage. Participants were also reminded of their ability to withdraw or refrain from answering a question before the interviews proceeded.

**Chapter Summary**
In this chapter, I outlined the methodology used for this research study on teacher insights on supporting students with HFA and teacher professional development needs. This chapter situated the study within the broader field of qualitative research and provided the rationale for my research design, participant selection, methods, and data collection and analysis. Limitations and ethical considerations were also discussed. Through the clear description of researcher choices and the theoretical underpinnings, this chapter contended that the study was designed and implemented with rigor and integrity and that findings are credible. The subsequent chapter explores the 5 case studies within this research study and the key findings implicated therein.

Chapter 4: Individual Case Studies

In this chapter, I present 5 individual case studies of the teacher participants in this research. All of the teachers are general educators at the elementary level and who have recent experience working with children with HFA in an integrated classroom. They are from different school boards across Ontario.

The cases describe each participant’s professional learning, teaching experiences, classroom and teaching context, knowledge and understanding of HFA, and their thoughts on integration and meeting diverse needs in the classroom. The cases introduce key themes that will be compared across participants and expanded upon in Chapter 5.

Case 1: Chivonne

Inspired by her mother, Chivonne always wanted to be a teacher. She remembers being out with her mother and being stopped by former students, “saying how much they loved my mom as a teacher” (personal communication, August 26, 2018). After teaching abroad in several countries, Chivonne certified as an Ontario teacher at the primary and junior levels in 2012. She
found employment as an educational assistant (EA) for almost three years before being hired a teacher. She believes working one-on-one with a range of students with exceptionalities as an educational assistant helped to prepare her for teaching and informed her deep sense of care and compassion for students. Chivonne currently teaches for a school board in a lower middle-class suburban area. Her school has a small number of students so the staff are familiar with all of the students and there are combined classes in every grade. She describes the population as somewhat “transient” (personal communication, November 19, 2017), with students coming and going throughout the year, without much cultural or ethnic diversity. She finds there is a high rate of divorce and single parent families in her school community. Chivonne has engaged in some professional development and believes teachers are motivated by learning which is hands-on, which draws on best practices from other teachers, and which is relevant to her concerns as a teacher.

**Professional Development**

**Pre-service.** While in high school, Chivonne completed a co-op placement in a Grade 2 classroom and it confirmed her aspirations. She especially loved that she was able to “be creative, play, and help children” (personal communication, August 26, 2018). She studied human geography at university, where she explored courses such as environmental studies, geographic information systems, and race and racism. She also pursued a number of religion courses, graduating one credit shy of a religion minor. Chivonne earned her Honours Bachelor of Arts before returning to school to complete a Bachelor of Education from a different Ontario university. While she did take a special education course as a requirement of her 1-year program, she found it “so general and so unspecific and ... you learned with the IPRC process was, but you didn’t learn how to deal with the student in your class” (personal communication, November
19, 2017). She did not come away with strategies or ideas for supporting diverse learners, an understanding of the processes or paperwork for which she would be responsible, or the resources available to her as a teacher.

**Ongoing professional learning.** The summer after earning her teaching degree, Chivonne worked toward her Kindergarten Part 1 additional qualification. She has since gone on to earn Kindergarten Part 2, Special Education Part 1, English as a Second Language Part 1, and Religious Education in Catholic Schools Part 1. While she enjoys learning, she found the majority of her additional qualification courses to lack practicality and to be “kind of a waste of time” (personal communication, November 19, 2017). As a beginning teacher, she took part in the New Teacher Induction Program which provided opportunities for professional development. She recalls a session on physical education and an in-service on the Reggio Emilia teaching method when she taught kindergarten. She enjoyed being able to pick several classrooms to observe inquiry-based learning happening in the classroom. Over the past 2 years, Chivonne has participated in ongoing math in-services which focused on increasing dialogue around math in the classroom. Initially, she found this stimulating but as sessions continue, she finds there is “no new information or ideas [and] it just seems to be the same thing over and over again” (personal communication, August 26, 2018). She mentions that sometimes, priorities set by the board or superintendents are pursued and do not always work.

She has never been offered any formal professional development in special education topics. Chivonne conveys how some teachers at her school are being in-serviced on a method of assessing functions of behaviour, often used by autism professionals, which requires observers to record antecedents, describe the specific behaviour, and identify the consequences. She says that while the training is very specific, it does not provide the teachers with the information about
how to prevent or responds to behaviour when it happens. Chivonne would appreciate training or resources on HFA so that she “could learn a little bit more ‘cause autism is so prevalent in our schools” (personal communication, November 19, 2017). Occasionally, she has had special education resource teachers come into the classroom and give direction but she found this unhelpful since they did not have a dialogue about classroom needs. Chivonne did not understand the rationale behind the strategies suggested and had never seen them implemented to know how these should work.

**Ideal professional development models.** Chivonne recollects how daunting it can be as a new teacher. Mulling over what would have helped her in her first year, she proposes receiving information about the resources available, such as how to access funds, request materials, or find out about programs. For ideal professional development related to HFA, she feels teachers need help understanding the “behavioural, social-emotional, communication” (personal communication, November 19, 2017) aspects of HFA and methods to assist students in their development. She is keenly interested in seeing teaching strategies modelled and discussing challenges and how to address them with other teachers. She endorses classroom visits, where teachers have the ability to visit a classroom of an experienced teacher who has students with autism, because “it’s real life and it’s practical and it’s happening, and you could actually just, like, kind of witness it and then you could ask questions that you might have” (personal communication, November 19, 2017).

She is not a proponent of online learning, as she looks forward to the “back and forth” (personal communication, November 19, 2017) of learning in person. She finds a drawback of many workshops is an emphasis on theory. Videos of real interactions with students that show what staff do would increase her interest in workshop-oriented professional learning. Other
considerations that would impact her likelihood of participation include the workshop location, time of day, whether it is funded by the school board, and if release time is provided. Ultimately, she considers meaningful professional development to be something immediately applicable to her classroom:

if ... I thought I could actually use it and that it was coming from... a teacher that’s actually been using it for years, not just ... a theory side. Um, yeah. The practicality would be a big thing ... and if I had relevance for in my classroom. If I felt like it was a need in my classroom that I was struggling with or that I felt like I could foresee happening, um, I think I would be much more inclined ... (personal communication, November 19, 2017)

**Teaching Experiences**

Chivonne has taught on four continents, working in China, Switzerland, South Africa, and Canada. International teaching has convinced her that Ontario has “a very, very good education system” (personal communication, November 19, 2017), despite its challenges and she has “counted my blessings every time I’ve come home” (personal communication, November 19, 2017).

After her teacher preparation program, she gained hands-on experience supporting exceptional students in a high school as an educational assistant for almost three years. She would be assigned to a student and had to figure out what to do without much direction or information. She recalls thinking,

‘Okay ... I’ve got to help them. I don’t know them but – I barely know their name, but!’

... I felt like that was, like, really good for me ‘cause I just-I just dealt with, like, right across the spectrum. (personal communication, November 19, 2017)
Although it was difficult to learn what worked through trial and error, in retrospect it increased her comfort and skillset when it comes to supporting learners with autism.

Her first teaching position was in a kindergarten classroom. Chivonne is currently in her third year teaching a Grade 2/3 combined class.

**Teaching and Classroom Context**

Chivonne’s Grade 2/3 classroom is “a mixture of fun and serious” (personal communication, August 26, 2018). Her students understand that, while there are lots of opportunities for fun within the day, Chivonne expects they will also engage in the work required. She believes learning should be exciting for children and so she incorporates games, music, dance and humour into her lessons. At story time, she reads in different voices for all the characters.

She looks for chances to integrate subjects, often bringing physical education, art, and music into her mathematics instruction. She relives how, when she was a child, her class went into a forest to draw the plant life for a science unit. This and other hands-on learning moments influenced her own teaching. She utilizes a SMART Board and a handful of iPads whenever these serve the learning. Chivonne also recognizes the importance of teaching students to self-regulate and will take the time to lead the class in yoga. As much as possible, she tries to teach to small groups in order to give more individualized instruction to students. Students rotate through interactive centres every 15 minutes in order to maintain focus and to have movement breaks throughout the day.

**Knowledge and Understanding of HFA**

When asked to rate her knowledge of HFA on a scale of 10, with 10 being a high degree of knowledge, Chivonne gives herself a mark of 5. She has learned a considerable amount
through hands-on experience as an educational assistant and as a teacher, but she also recognizes that every child with HFA “is so individual that meeting their needs all the time – and sometimes they have, like, multiple exceptionalities, so, like, that’s a challenge” (personal communication, November 19, 2017). She knows there is more she can learn, but she says she is comfortable teaching them. When rating her confidence supporting learners with HFA on a scale of 10, with 10 being highly confident, Chivonne feels she is a level 6. She articulates how she always asks herself “‘Am I meeting their needs? Am I meeting their social needs, especially, ‘cause that can be a big challenge?’” (personal communication, November 19, 2017). She states that she has also learned from colleagues, parents, and blogs. Her mother once gave her a book for her birthday called *The Reason I Jump* (Higashida, 2013), which is written by a teen with autism and which helped to expand her curiosity and perspective of autism.

Over the past 6 years, Chivonne has worked with five or six students with HFA and believes she has another student in her classroom who would meet the criteria for a diagnosis. Her understanding of HFA has evolved as she has worked with various students. As an educational assistant, she first worked with a Grade 5 student with HFA without knowing much about HFA and found the student to be a “weird kid” (personal communication, November 19, 2017). Through working with him, she got to understand his struggles fitting in and the pain it caused him to not understand the feelings of others or what to do to bridge the gap between him and peers. His parent revealed his diagnosis to him that year and he decided to inform the class. The special education resource teacher did a lesson on autism and the class moved to a place of awareness and understanding and there was an improvement to peer relationships. It made her appreciate the depth of the role of educational assistants and teachers, which is not confined to
merely supporting academics. Chivonne describes HFA as children who are verbal and who have:

average to high intelligence ... They almost, like, get that they have autism and they can, like, vocalize it ... I’m just thinking of the one boy I worked with in the high school. He knew and he’d be like, ... ‘Am I too close to you? Do I need to step back?’ ... you could kind of talk to him about his autism, ‘cause he got it. (personal communication, November 19, 2017)

Academically, she has found students to manage and be able to do much on their own with “just that extra little guidance” (personal communication, November 19, 2017), occasionally going off onto tangents or having difficulty focusing their thoughts. She conceptualizes the social aspects as the greatest challenge and that students with HFA have trouble reading social cues and peer reactions. Peers often do not relate to a student with HFA and she has felt constrained as a teacher because she cannot discuss the diagnosis without parent permission. One of her previous schools implemented a recess buddy system so that a student with HFA could have successful interactions. She explains how she has found social stories to be a helpful tool to help students with HFA to understand what they should and should not be doing in different situations.

She mentions the student she believes may have HFA but is undiagnosed. She describes how he thinks in unique ways:

he’s so funny and ... he says, like, things and I’m just like, ‘What?’ We’re writing paragraphs ... and I said, ‘What’s some things that you would like to write a paragraph about?’ And he’s, ‘I’d like to write a paragraph about ... what would happen if the sun came too close to the earth and what would happen to the volcanoes!’ ... Everyone else is,
like, cats, dogs ... I was like, ‘I don’t know where you came up with that, but ...

[laughing] Go for it!’ Uh, I was like, ‘I have to be able to understand it, though, okay?’

(personal communication, November 19, 2017)

The student can become easily worked up and has difficulty doing cooperative activities or projects with peers. She wishes he did have a diagnosis so she could help the other students to understand him and react with understanding, which she has observed is much more likely if students are taught about the specific needs of a student. Chivonne has consulted with other teachers at the school about whether they believe he has HFA and they have been reluctant to put him forward to team given the high caseload of children requiring identification, and many whose needs are more apparent. This seems to be the trend with children with HFA at her school. She observes how, often, the children with HFA get less support or have assigned personnel pulled without notice because they are higher-functioning. At other times, managing parent expectations and getting them “on board” can take some effort. However, she feels her current staff is very supportive, something which she feels is easier because it is a small school. They all know the students who are at risk and watch out for them. When a teacher has a goal for a student, he or she communicates it to the staff so they can collectively reinforce it. Chivonne shares how one student has to greet each teacher by name when he collects attendance from their classrooms and wait for them to respond.

Chivonne has been deeply affected by her students with autism, particularly the ones who were lower-functioning. As an educational assistant, she supported a nonverbal 19-year-old with autism who it was a “struggle” (personal communication, November 19, 2017) to get along with at first, and he bit, punched, and headbutted her. Over a year and half, she formed a bond and came to a place she describes as “unconditional love” (personal communication, November 19,
2017) for him. She discovered how she learned different ways that he communicated, such as showing her to come along with him with a particular motion, or the moment she realized he finally liked her when he conveyed affection by placing his hand on her shoulder and kissing his hand. She still follows up to hear how he is doing. She becomes emotional as she remembers how “we’d jump together. He loved to jump, sort of, so we would jump together ... Yeah ... I still think about him all the time” (personal communication, November 19, 2017).

Chivonne also notes that she has worked with a student in kindergarten with autism and she was not sure where he fell on the spectrum. She describes him as verbal though he did not speak in full sentences, and able to read and write. He was sweet, always wanting to hold her hand or the hand of a young girl in the class, though he did not connect to other students. He attended ABA sessions outside of the school each day for half a day. He would sometimes have washroom accidents, which was problematic when his educational assistant was pulled to assist in other classrooms and no one was available to come and assist Chivonne with the class and changing the student out of his soiled clothes.

In considering what she still wants to know about HFA, she wonders:

how do they think? And what is their thought process? And how can I understand that better so that I can either pre-empt it or, like, help them with it? ... Why are they doing these things? Why don’t they see the social cues? Why don’t they get it? (personal communication, November 19, 2017)

She feels understanding the cognition of individuals with HFA would help her to relate to them and to be able to better accommodate for them within the classroom.

Integration and Diverse Classroom Needs

Chivonne teaches a combined grade which is composed of sixteen Grade 2 students and
three Grade 3 students. There are three times as many boys than girls. Some of her Grade 2 students are very low academically and she finds she wants to bring those who are not yet achieving at a high level up to par, and I still want to enrich the higher kids and the Grade 3s, but it’s such a big gap that it’s hard to ... bring it all together ... we’re doing paragraph writing and I have kids that can’t form a sentence properly and – but I have kids that can write a whole, like, full-page paragraph. And that gap is so big and you-I’m trying to do it through centres and ... differentiated instruction, but the kids that need the more help need more attention and they need more time and I find that I feel like I’m not giving the higher kids as much attention as they should be getting. (personal communication, November 19, 2017)

She is also concerned about the emotional needs of her students. One of her students recently moved after her parents divorced and she is exhibiting new behaviours. While their school has one half-time child and youth care practitioner to help with social-emotional issues, he must balance the needs of 330 students.

Chivonne finds the biggest barrier she faces as a teacher is accessing appropriate supports and resources. For instance, while she has some technology, there are associated issues. One of her two desktops does not work, and the SMART Board is unreliable. She has four iPads but cannot download any applications that cost money or any games, so these are underutilized: “right now they’re sitting in my cupboard ‘cause we don’t have any use for them! And I can’t just let them go on the internet and just go anywhere!” (personal communication, November 19, 2017). She wishes there were in-services on available applications and how to use them in the classroom. Instead, her iPads are loaded with a digital 10-frame and a rekenrek, which are two-dimensional versions of math manipulatives. She says her students would rather have the actual
materials to feel and use at their age.

Educational assistants are reallocated as needed if there is an issue somewhere else in the school, which means students who have one assigned have inconsistent support, and she finds this to impact students with HFA:

the first students to get pulled EA [educational assistant] support are your higher-functioning ones ... they almost get, like, left to the side ... they still need it and if they don’t have someone in the classroom to help them on a daily basis, even if it’s just for a couple of hours, they’re going to ... struggle. And that’s not fair because they’re not meeting their needs. (personal communication, November 19, 2017)

If an educational assistant is sick, they are often not replaced by supply educational assistants. She finds that, especially in combined classes, another person who can help answer questions while the teacher works with students in another grade and to help provide as much personalized attention as possible to students.

Chivonne remarks that teachers are expected to be “an expert” (personal communication, November 19, 2017) in all conditions affecting learning, but this is unrealistic. Given the scope of learning needs, she stresses that there need to be more interventions. Chivonne has friends who teach in other boards which have reading recovery programs. These are not available in her board and she worries about students who are “just hovering on, like, benchmark, I’d like ... I’d love to be able to read with them more, send them to a-a reading recovery teacher that could help them” (personal communication, November 19, 2017). Chivonne concludes that students need to be “bad enough” or “low enough” (personal communication, November 19, 2017) to be assigned to a program, but that many of her students would benefit from specialized attention that could help them to improve. She relays how a young boy in her school with autism who is exhibiting
violent behaviours qualifies for a specialized program but there is a waitlist of 15 children. The school frequently calls his mother to pick him up because he runs off property or hits people and he does not qualify for a full-time educational assistant. She states that her board has several of these autism programs but that these all have extensive waitlists and so children do not usually get admitted until their intermediate years, negating the possible positive effects of early intervention. Teachers are faced with a dilemma:

There’s only so much we can do. And you still have to do all the curriculum and all the other things that you do and it’s-it’s a big disservice to that student as well as the rest of the kids in the class. And you just-you feel stuck. (personal communication, November 19, 2017)

Students who do not qualify for a program get passed on each year, without receiving the support or resources that could have made the difference to their achievement.

Chivonne reveals the difficulties that teachers face even getting students diagnosed. Several students in kindergarten and Grade 1 at her school who teachers suspect may have autism have been on the psychoeducational assessment list for a year and are still waiting. She is troubled by the cost to parents to complete an assessment outside of the school board. She is similarly dismayed by the cost of outside autism services and the impact on families, who have to take time off work or arrange transportation for their child. She wishes outside agencies could intervene in schools and work in partnership with teachers.

Despite many frustrations with the educational system, Chivonne does not let it impact how she feels about exceptional learners. Chivonne feels that “compassion and patience are probably, like, the biggest things that I’ve gained from working with all students in general, I guess I’d say, but in particular with students with special needs and autism” (personal
communication, November 19, 2017). She believes integration has the potential to bring out similar qualities in other students, if they are taught about the needs of others. Chivonne does everything in her power to support each student in her classroom and hopes she is giving them each the attention they need. She prioritizes connections with families and has used communication booklets or daily verbal check-ins and appreciates knowing how children are doing at home. For her students with HFA, she will use social stories to explain why a certain behaviour is or is not okay. She has discovered that deep breathing and yoga especially help the student she suspects has HFA who becomes easily agitated. To support academics, she is mindful of chunking the work and giving step-by-step instructions. She uses visual schedules, agendas, and visual lists so that students can see what they need to do. Whenever possible, she will set students up at the computer to listen to the talking word processor or to type if this is an accommodation they need. She relies on students who are achieving academically to help others in the room and partners up students who will work well together. While these are necessary for her students with HFA, she believes they are helpful for everyone in the class.

**Case 2: Leah**

Leah was certified as a teacher in 2009 and has been employed as a teacher for 7 years. She is qualified to teach junior, intermediate, and senior divisions. Leah has been on a permanent contract for 6 years and was worried she might be declared surplus in her small, tight-knit community school in the next school year. She voluntarily transferred to another elementary school with 600 students where she began teaching a Grade 5/6 combined class in September. She describes the school board as a large, urban board in a mixed socioeconomic and cultural area. Many of her families are first-generation Canadians.

Leah is a teacher whose eyes light up as she describes the joy of helping students
“become the amazing young people they are” (personal communication, August 24, 2018). She fosters a sense of community where everyone is learning in her classroom and makes it a priority to establish a positive rapport with each child. Leah is enthusiastic about professional development opportunities which provide ongoing opportunities for dialogue with colleagues, which provide materials or resource lists that teachers can use, have a practical application, and for which there is coverage. She has many ideas for promoting school-based collaborative relationships that encourage the generation of new ideas and teacher growth.

**Professional Development**

**Pre-service.** Leah holds both an Honours Bachelor of Science in Psychology and a Bachelor of Arts in English from an Ontario University. She describes how “school always felt like home to me. In university, I started volunteering in a high school and fell in love with the classroom environment again” (personal communication, August 24, 2018), which motivated her to becoming a teacher. She enrolled in a 1-year teacher certification program where she certified in intermediate and senior divisions and declared English and Religious Education as her subject specialties. While Leah felt better prepared to meet exceptional needs due to some preparation on IEP development, she was not prepared by her teacher education program to support learners with HFA.

**Ongoing professional learning.** Shortly after graduating with her teaching degree, Leah received her Junior division certification. Two years after certification, she earned her Special Education Part 1. Since then, she has completed her 3-Part Religion Education Specialist. She is currently nearing the end of a Master of Education program with a focus on leadership and administration.

Within her school board, Leah has taken advantage of professional development in
literacy in the classroom, technology integration, and math. She acts at the math lead at her current school and was the math lead at her former school as well. For Leah, effective professional development either presents the opportunity to learn from the “real-life experiences of other teachers” (personal communication, August 24, 2018) or allows colleagues to work together over time to share tools and hands-on activities, time to implement learning, and regular follow-up to discuss what is or is not working based on what is happening in each teacher’s classroom. These supportive, collegial relationships continued after the scheduled learning was over. She particularly enjoyed when a collection of teachers from the district opened up their classrooms to one another to observe team-teaching and math pedagogy in practice. Leah is also grateful to have a supportive administration who occasionally provide coverage to her class so that she can co-plan or collaborate with the special education teacher or other staff. At other times, Leah would communicate with the special education teacher or an autism resource teacher on their own time.

Leah has attended a half-day workshop on high-functioning autism which was offered to her because she had a student who attended an autism support program. The workshop explained what HFA was, how students with HFA might look in the classroom, and also covered strategies and suggestions for how to support students. She felt this was beneficial and should be offered to more teachers:

If we’re being integrated – if our kids are being integrated in the classroom, teachers need to be taught how to support them. Teachers need to be taught these strategies that we learned at the program – that-that we learned if we’re lucky enough to have a kid in it, but then, like, what about everybody else? (personal communication, January 22, 2018)

She also considers a visit from an autism resource teacher to her classroom to present on
autism as a form of professional development, because, although it was directed at teaching students to understand and support peers with HFA, it utilized many visuals and videos and that she and the special education teacher who came to observe the lesson learned from as well and have used with other classes.

Leah sums up that her “favourite and most valuable PD experiences have had a lot of hands-on opportunities - collaborating with other teachers to work through lesson ideas or to create rubrics, working through problem solving, or trying out different math apps” (personal communication, August 24, 2018). She prefers a practical focus:

we don’t have time to just do it on our own always or we don’t know where to go ... we need physical resources, like, ‘Here’s a website. Watch this!’ or ‘Here’s a booklet. Read this’... or someone comes in and actually teaches us, you know? ... [But] there’s no resources, budget, time, um, support ... there’s too many things that we should do and not enough support for it. (personal communication, January 22, 2018)

In contrast, Leah finds professional development which centres on too much theory and are lacking in hands-on activities to be less valuable. Leah cites a significant barrier to teachers’ ongoing learning is that her school board does not provide access to professional development codes for a supply teacher to come in, and so teachers have to use a sick day or take an unpaid day if they want to attend a conference.

**Ideal professional development models.** Leah speaks thoughtfully about the professional development needs of school staff. She is a proponent of every teacher receiving at least a day of training in special needs. She imagines it could be structured where you attend a formal professional development session to start and end the year which focuses on strategies to support all learners in the classroom. For teachers to take advantage of formal PD, coverage or a
code for a supply teacher must be provided, the location must be accessible and easy to get to, and they will want to come away with tangible tools and information that is relevant to their students. If a teacher has never received specific training on HFA, she suggests a model wherein they can apply for a targeted 1-day workshop about how to support these learners, or perhaps every school could devote a PD Day to the topic and learn as a staff community, with information delivered by an autism resource teacher which should incorporate videos, a question period, and a collaborative strategizing session; and which provides helpful resources, strategies, and materials to use in the classroom. She believes other school staff, such as educational assistants and child and youth workers (CYWs), should be offered training on how to effectively work one-on-one with students. They would also benefit from access to a mentor who can visit the classroom and give suggestions on their interactions, much like beginning teachers.

Even as a teacher with a high degree of knowledge and experience with children with HFA, Leah would still appreciate ongoing training:

it’s always good to have more strategies or a refresher about what strategies work … maybe there’s something new or … an app or a program or something online that the kids would really like or that the teachers can watch a video about HFA or, like, a book or something, right? (personal communication, January 22, 2018)

In terms of what she feels other teachers need to know about HFA, she recommends any professional development be practical and provide an overview of what it means to have HFA. From her vantage point, many teachers misunderstand or do not recognize HFA because they have never had access to training. Consequently, they are not attuned to their social or emotional needs and may use methods, such as punishment or raising their voice, that can actually increase the anxiety of a child with HFA. Leah cautions, however, that it can be overwhelming to receive
professional development and then not know what to do with all the ideas, so presenters should encourage teachers to make one change at a time to their existing practices, such as incorporating a visual schedule in the classroom.

At the school level, Leah feels teachers who will be having a child with HFA in their class could be provided with information about HFA and a personalized list of tips to support that child before the school year begins. She believes collaboration is an invaluable form of professional development, which can be as simple as passing along information such as “‘Oh, he worked really well with this person’ or ‘They sat together. They were good partners’” (personal communication, January 22, 2018). She sees the need, especially at larger schools where the staff may not be as familiar with which students have HFA, to share information about what supports are needed for each child and how teachers on recess duty can help. She suggests there be greater transparency about resources available to teachers. While there are autism resource teachers available within the board, many are unaware that they can access this support.

Leah strongly advocates for ongoing collaboration time provided through the school for all colleagues who are supporting the same child with HFA. She feels this can be maximized by having scheduled joint planning time every week, “planned right from the beginning from our prep time, ... not on our own time, but within the school, to plan together” (personal communication, January 22, 2018). This time could be used to plan the IEP together each term, to develop learning goals for new units, and to share strategies to be used consistently across settings.

**Teaching Experiences**

Leah considers herself fortunate that, after she began teaching, she supplied for a short period of time before qualifying for long-term occasional positions. Initially, she taught at the
high school level. She is currently in her sixth year as a permanent teacher at the elementary level. Every class she has had in the elementary system has been a combined classroom, “which has always been an interesting experience!” (personal communication, January 22, 2018). She has taught Grade 5 to 12. Her current placement is a Grade 5/6 combined class.

**Teaching and Classroom Context**

Leah’s Grade 5/6 classroom is a “[c]ollaborative ... inclusive, differentiated classroom where everyone feels welcome” (personal communication, August 24, 2018). She spends September establishing an environment where students feel safe and valued and emphasizes friendly words. She draws on a personal connection to her nephew, who has cerebral palsy, which has made her more attuned as a teacher to the fact that “everyone has something that they need and it’s just really, um, paying attention to which students are being ... left out or left behind and ... trying to include them, ‘cause they could get lost” (personal communication, January 22, 2018). She takes a keen interest in how students are doing academically and socially. Leah makes a concerted effort to discuss how to be a contributing group member or to encourage others to be part of the group before group activities to set students up for success and she monitors how students are problem-solving, intervening if needed.

Leah makes things predictable for students by having clear schedules, instructions, and routines. She engages her learners by integrating technology such as videos of science experiments, music, online quizzes, or Google Classroom. She has found that many learners, including her students with HFA, make better connections when learning is hands-on or visuals are incorporated into the lessons.

When she was a student, Leah responded to experiential learning such as labs, projects, and field trips and so, as a teacher, she strives to bring these opportunities to her students. These
also help to reinforce the grown-mindset culture Leah nurtures in her classroom, as students attempt new activities or accomplish a new milestone. Leah models for students that everyone makes mistakes and that she, too, is “a work-in-progress, and that it’s okay” (personal communication, January 22, 2018). While she helps every student to set their own goals and to become more self-sufficient, Leah finds it exciting to see the eagerness with which students with HFA respond to their growth on individualized goals. Leah celebrates each time they take a step outside their comfort zone, master a goal, or begin to goal-set for themselves. She describes her favourite educational moments as the times when her students “face their fears and participate in a high-ropes course, or seeing a new student get called over to play a game with the rest of your class” (personal communication, August 24, 2018).

Knowledge and Understanding of HFA

Over the last few years, Leah has taught at least five students with a diagnosis of HFA, many who qualified for a specialized partial withdrawal program within her school board. Some students she has taught for 2 consecutive years and she has had several years where she has taught multiple students with HFA in the same class. This year, she has two students with HFA. She rates her knowledge of HFA as “very high” (personal communication, January 22, 2018), at a 9 or 10, due to her collaboration with the autism resource and special education teachers. She has integrated the strategies to support learners with HFA into “my own teaching for all students because I think that ... the strategies that help students with HFA would be beneficial for all students” (personal communication, January 22, 2018). She rates her confidence in supporting her students with HFA as an 8, because she points out that she is always learning with each student, as strengths and needs are always unique to each child. She states that:

the most positive thing has been interactions with students with HFA – like, actually
working with one, one-on-one, and working with their families and with support teachers. That has been the best learning tool about them ... because hands-on is the best way because then you can try it out and then see if it works and then adjust. So, like, if the other special ed[ucation] teacher is like, ‘Oh, I found this is a great – this reward system is really great for him and he really enjoyed that.’ So I’m like, ‘Oh, great idea!’ (personal communication, January 22, 2018)

She describes herself as having “learned it all on the job” (personal communication, September 2, 2018). Besides information gleaned from colleagues and an in-service on HFA, Leah will search for scholarly articles and books related to HFA on her own time. She also pays attention to conversations about autism in social media, and observes that, while representation of autism is increasing on TV, she doesn’t “really see a lot of different examples yet” (personal communication, January 22, 2018).

Although some of her colleagues have mixed feelings about autism awareness activities, Leah believes these are important for peers and for students with HFA to learn about positive outcomes and strengths people with HFA can have. She Leah describes how she explains HFA to her students:

   every student ... looks at the world and understands the world in different ways ... So, students with HFA just understand and look at the world differently, um, just like we all do ... sometimes they need more direct, um, instruction of what exactly they’re supposed to do or what exactly the rules are ... they’re able to be at grade level or, um, above grade level on academics. So, they understand concepts really well and they can pick things up really well, but ... they don’t have the social skills that-these come so naturally to other students. (personal communication, January 22, 2018)
Leah highlights many examples of times students needed help understanding the nuances of social situations, and how this has helped her as a teacher to be more aware of her preconceptions and to make fewer assumptions about what should be known or understood. She says she has had to teach students the “hidden curriculum” (Myles & Simpson, 2001) or unstated rules about how close to stand to someone, how to appropriately show affection to teachers, that a teacher giving a lecture to the class is not necessarily directed at them; and that another teacher who speaks in a loud voice is not necessarily mean because of their volume. She says that her students with HFA frequently misinterpret others or jump to conclusions, such as a student who cried during a lesson in Grade 7: “he jumped, like, from ‘this is global warming’ to ‘the whole, like, animal species are going to die and then everyone’s going to die and then the-the sun’s going to explode!’” (personal communication, January 22, 2018). She strives to connect with each student so they can share their feelings and she can support them and help them to decrease their anxiety.

Leah laughs as she describes that the biggest challenge for her students has been organization. One student would mentally work through the homework and forget to write it down, while others have lost their homework or crammed it into their desk and “they can’t care less, like, where it goes. Once they’re done it, they’re just done it and then it’s, like, out of their head” (personal communication, January 22, 2018). In each case, Leah would take the time to develop goals and strategies for the student to use. Leah is constantly thinking about how her students interpret the world and what she as a teacher can do to support their learning. Another challenge, she realizes, is that her students with HFA sometimes struggle to provide detailed answers in writing. Often, they will be unaware they will read a question literally or only answer the first part of a multi-part question. She is vigilant about how her assignments and tests read
and look on the page, spacing things out and wording them as specifically as possible:

So, if I just say ... ‘what is the water cycle?’ And they’ll say, like, ‘It’s a cycle of water.’

[laughing] So like, that’s an answer, and I’m like, ‘That’s true’, but ... I should have written down, ‘Be specific in explaining what it does’ ... to make sure my question is actually asking what I want them to answer ... (personal communication, January 22, 2018)

Leah clearly puts thought into planning her lessons and activities to reach each student. She speaks fondly of the specific topics of interest her students have had, such as origami, Pokémon, and war pictures: “they’ll constantly be drawing that or constantly want to talk about it and it’s, um, and it’s-it’s just – it shows their curiosity and then their passion... they get really excited about it” (personal communication, January 22, 2018). She tries to use these as hooks to engage them in the learning or in special interest projects, as otherwise they may not participate or show interest for less preferable subjects.

Socially, she finds students with HFA want to fit in, even if they appear like they do not. By providing support and teaching students how to interact at recess and during group work, she sees students with HFA understanding how to join the group and then beginning to make the effort. Sometimes, they are so excited to be included that they forget to focus on the work of the project. She finds the biggest social issues occur at recess, when she is not always there. She explains how her students were playing a game outside where the student with HFA was “kind of like a human wheel barrow” (personal communication, January 22, 2018). When the child with HFA tried to make another student try this role, the child was upset and parents were involved. For the student with HFA, it was a confusing situation and required Leah to intervene and review recess rules with the class. Leah laments that more teachers do not have the knowledge of HFA
and may perceive students as “annoying” (personal communication, January 22, 2018) when they approach them on recess duty and talk at length about their favourite subjects. Teachers may not understand they are walking with the teacher at recess because they are not yet comfortable with the other students or they do not know how to join activities. She shares a story about how another teacher tried to solve a recess conflict between Leah’s student with HFA and another boy by telling the other student not to spend time with the student with HFA and how it was a missed opportunity to teach how to trouble-shoot a friendship. She reminisces proudly, however, that putting in the work to encourage positive social interactions has yielded success at recess and in school activities. Last year, a student with HFA joined the basketball team for the first time. This year, another student with HFA who is often reluctant to do group work or physical activity participated in dance workshops:

   It was amazing, like, to see him work with a group, work with other boys in the class and they presented in front of the group ... he was really into watching the other groups too – like, instead of checking out he actually was really engaged in seeing the other groups present too. (personal communication, January 22, 2018)

**Integration and Diverse Classroom Needs**

According to Leah, juggling all the needs in a combined class can be “overwhelming” (personal communication, January 22, 2018). She has “the regular curriculum for one grade, the regular curriculum for another grade, and then I have gifted curriculum, so that’s having, like, higher options available, and then I also have special ed[ucation] needs and they’re all different!” (personal communication, January 22, 2018). She mentions it can sometimes be stressful managing the expectations of parents, and she is appreciative of parents who work in partnership with her. She refers to the intermediate grades, with the onset of puberty, romances, and
heightened emotions to be “a minefield” (personal communication, January 22, 2018).

Leah envisions that, in an ideal world, classrooms would have more resources, such as assistive technology to help students with HFA who have difficulty writing and visual dictionaries and there would be more programs available for students who need specialized learning environments or partial withdrawal. Given the need to prepare students with HFA for new situations and unstructured times, having an educational assistant in every class who could help students to get ready before recess and debrief afterwards would help. She also feels more professional development would benefit all school staff and that small changes, like shared planning time and increasing communication about students and their needs can help change the culture of a school.

Leah has found the integration of student with HFA have made her more aware as a teacher of their needs and has impacted her practice for the better. Leah has developed numerous strategies and approaches to teaching and planning to benefit her learners with HFA and has found these to be equally effective with other students in the class. She possesses a heightened awareness of the fact that students with HFA do not intuitively grasp unstated teacher expectations, and so she plans her tests, lessons, and activities with this lens, considering what information needs to be explicitly taught and how to help students to be successful. On a trip to a mall, she taught all her students how to order at a food court and discovered many had never ordered for themselves.

She prioritizes routines and organization which make the classroom environment more manageable for everyone. She spends a significant amount of time planning how to teach the structure she wishes to see and will specifically “show them, like, if we have a handout I’m going to show them, like, how do we highlight? How do we find the information?” (personal
communication, January 22, 2018). She unpacks her expectations so that students know what language to use and how to collaborate in groups and she uses strategic grouping to make sure everyone has a partner and is included. During collaborative activities, she circulates to make sure groups are getting along and, if not, she will “ask questions to help them work together” (personal communication, January 22, 2018).

Leah is meticulous about sourcing or making visuals for lessons and creating differentiated options for projects. She will post suggestions for what to do when finished assigned tasks or whole-class routines and will make individual checklists for students to follow on their own. She explains that she doesn’t “just take things up orally. I have to put things on the board or I have to put them on a handout that I can pass around so that they can double-check” (personal communication, January 22, 2018), as she feels strongly that visually seeing the information helps students to remember what they have learned. She frequently uses a camera to live-stream and project the process of taking up homework so that learners with HFA and other students in the class can actively follow along. She finds that having and reviewing a visual schedule of the day helps all students to prepare for what is yet to come and decreases anxiety in students with HFA. She also utilizes a visual agenda on the blackboard, and records what will be homework after each subject, asking students to do the same in theirs.

The foundation of Leah’s classroom is the sense of community. If the students are the spokes of a wheel, Leah is the hub. She actively works toward creating positive relationships and notices her other students are more compassionate as a result of being taught how to work through social issues and that her students with HFA learn how to self-advocate more. She considers it essential to connect with students on an individual level:

you have that rapport so that if they do feel anxious or worried or upset, that they come to
you, ... So it’s like, being aware of those students and not making, like, a big deal out of it but also just making sure that they know you’re there if they need to. And helping them foster friendships in the classroom so that they feel comfortable with the other students ...

(personal communication, January 22, 2018)

This focus enables her to monitor the well-being of students beyond academics. Since Leah gets to know each of her students, she can help them to set personal goals. Her students with HFA work on these goals in collaboration with Leah and their withdrawal program teachers, and she finds a team approach increases their motivation to do well. She highlights how it is vital, as a teacher, to positively reinforce when she sees their growth:

if we’re working on that language and trying to add details and they had, like, two sentences at the beginning of the year ... and then you see them, like, so excited about getting halfway through the page or ‘I did the whole page, like, of writing!’ And like, really, really giving them the positive feedback like, ‘Wow, your writing is so much neater now!’ ... and then they feel proud of it, too ... in my experience, they’ve been really excited ... achieving something that they didn’t think they could do before ...

(personal communication, January 22, 2018)

**Case 3: Tanya**

Tanya is in her first year as a Grade 6 teacher though she has been a teacher for 14 years. She is certified to teach at the primary and junior levels, though is her first position teaching in the junior division. She considers herself a good teacher with an effective behavioural management style. The school board Tanya works for covers a large geographic area and is comprised of a range of communities with varying demographics. Her mid-sized school is located within a suburban pocket and services an ethnically diverse, generally affluent
population of families. While she is open to professional development as a teacher and has taken part in many board initiatives, time is a significant factor for Tanya. She believes professional development should be offered during the workday and should not contribute to the existing workload of teachers. Of greater importance to Tanya is having the personnel support to meet the needs of students in the classroom.

**Professional Development**

*Pre-service.* Tanya received an Honours Bachelor of Arts degree from an Ontario university, where she majored in psychology and sociology. In her final year of studies, she “panicked” (personal communication, August 26, 2018) about what to do next. She relates that she made the decision after considering how “My mom has always pushed for me to get into teaching (completely biased, as she was a teacher herself) and it was a career that paid well, provided a pension and had job security” (personal communication, August 26, 2018). Tanya enrolled in a Canadian-run teacher education program offered out of Buffalo, New York. She states that her coursework did not touch on special needs or learning disabilities.

*Ongoing professional learning.* Tanya earned her Special Education Part 1 additional qualification the year after certifying as a teacher. She recalls there was some information about HFA included in the course. She also possesses her 3-part Math Specialist additional qualification, though admits with a laugh that she feels she is “a horrible math teacher” (personal communication, February 3, 2018).

When first starting out as a beginning teacher, Tanya found it helpful to visit some demonstration classrooms and to see how other teachers ran their classrooms. She also enjoyed a teacher-run summer conference aimed at beginning educators where she was able to select her desired grade or subject and then attended sessions which provided “a lot of ideas and materials”
Throughout her career, she has taken part in learning during staff meetings and Professional Development (PD) or Professional Activity (PA) Days, though none of these focused on HFA. There is sometimes an unspoken expectation of staff at her school to participate in learning or colleague-to-colleague work which would cut into personal time or create extra work. Tanya is firm about her boundaries, preferring to engage in professional development which occurs during the school day as part of the job, but feels that this is subtly frowned upon.

A workshop on assessment and evaluation which was offered through her teacher federation appealed to her because it demonstrated how to implement meaningful assessment practices that could then be taken back to the classroom. Unfortunately, Tanya finds that the professional development available to her is often restricted to the priorities of the school board:

I find a lot of the PD we do now through the Board is not very worthwhile. Seems they are just interested in pushing new initiatives onto teachers every year and they never really go anywhere. The focus has been on math and not all teachers agree with this new inquiry-based way of doing math, so it can get very frustrating being told you should teach something in a way you don't agree with. It would be great if the Board listened or surveyed the actual teachers in the classrooms to get their opinions on what PD they would like. (personal communication, August 26, 2018)

Along a similar vein, Tanya and her staff are allotted professional learning time once every teaching cycle for one period for a short PD session, either with a lead teacher or a consultant. However, there is no follow-up, which makes it difficult to know how to apply any new learning or to problem-solve issues that may arise.

**Ideal professional development models.** If Tanya could create a wish list for an ideal
professional development model, it would be supported by the school administration; offered during the school day or with provided coverage; not requiring additional work on the part of the teacher; and on a relevant topic, reflecting her day-to-day challenges as a teacher. In considering effective professional development on HFA, Tanya feels that most teachers would be interested in better understanding strategies to use, accommodations to support student learning, and how to deal with behaviours or challenging situations, should these occur. Tanya has not experienced challenging behaviours from a student with HFA but acknowledges that many teachers worry about this, so it should be a topic for inclusion in any formal professional development. As a beginning teacher, focusing on easy-to-implement strategies would help when feeling “completely inundated” (personal communication, February 3, 2018). Now, as an experienced teacher, Tanya is curious about actual neurobiological differences of children with HFA and whether that would have any implications for how assignments should be designed or specific strategies that would be helpful. While she would be open to attending a 1-day workshop if it were practical and provided her with materials she could take back and use, she proposes having an autism expert come in to observe a specific student in the classroom followed by release time to brainstorm what works and where she as a teacher could better support the student. It would also be nice, she thinks, for her and other teachers to have some “kind of reassurance that … I’m doing enough” (personal communication, February 3, 2018).

**Teaching Experiences**

At the outset of her teaching career, Tanya secured a position at a private school since it was difficult to gain full-time employment with her local school board at the time. She then learned of a position opening up at a public school on a part-time basis and applied. For about two years, she split her time between kindergarten home room and prep coverage between two
schools. She has been teaching full-time at her current school in the public school system for 8 years and has taught kindergarten home room, a senior kindergarten/Grade 1 combined class, Grade 1, and a variety of subjects as prep coverage for the last few years. This year, although it was not her preference, she was assigned to teach Grade 6:

I didn’t ask for it, so it’s been quite a struggle this year. I’m-I’m a little kid teacher ... I mean, it’s not been horrible. A lot of the kids I have in my class I had in kindergarten and Grade 1. So, it’s a great group of kids, it’s just – yeah. Grade 6 is a big change from primary! (personal communication, February 3, 2018)

Initially, she felt overwhelmed by the transition, which she likened to “starting all over again!” (personal communication, February 3, 2018).

**Teaching and Classroom Context**

Tanya has 27 students in her Grade 6 classroom and describes them as a “tolerant, empathetic class” (personal communication, February 3, 2018). Six of her students have an identified exceptionality and are on an IEP. Tanya is very meticulous about reading each IEP to familiarize herself with their needs and to acquaint herself with the accommodations that best support each child’s development. Students learn quickly that her classroom is calm and quiet so that students can learn. She has a reputation as a strict teacher because she makes it clear she has high expectations for students, which includes that they consistently demonstrate respectful behaviours. She recognizes that her teaching style is influenced by her experiences growing up, describing herself as someone who was

an extremely shy student ... always hated having any attention on me or a loud out of control classroom. I think, because of that, I make a point of having a high degree of classroom management and I also take seriously how students treat each other because I
don't want them feeling uncomfortable if people are acting inappropriately for a classroom setting. (personal communication, August 26, 2018)

While she does not love being a teacher, she feels she is a good teacher with a well-run classroom. She enjoys teaching new concepts and piquing the interest of students. She uses visuals and technology to enhance lessons and to assist students throughout the day. For instance, she always writes down and reviews step-by-step instructions so that students have a clear understanding of what is expected.

**Knowledge and Understanding of HFA**

Tanya gave herself a 5 in rating her knowledge of HFA on a scale out of 10. She feels that she learns about needs and appropriate interventions from the IEPs of students although she recognizes she does not have specific, in-depth knowledge of HFA. She has gleaned some information from a colleague who teaches a class for students with autism in the school, who will run events around Autism Awareness Month and will inform the staff about the needs of specific students so the staff can be on the look out. She expresses disappointment that she does not have more time to read and learn about HFA. However, she is fairly confident in her ability to support learners with HFA, giving herself a 6 out of 10. Tanya suspects she has taught four or five students with HFA over her 14 years as an educator, though is only confident that her current student has a definitive diagnosis of HFA. This year, her student with HFA is managing well in the classroom and achieving level 3s across subject areas. She uses accommodations from the IEP as well as those which she has employed over the years, but worries about future cases where “what if that’s not working? I don’t know what to do next!” (personal communication, February 3, 2018).

She explains that she understands HFA as:
someone who is on the autism spectrum but you may not know it or you may not realize it ‘cause I think we have – when we hear the word ‘autism’, we have this set kind of idea of, you know, what you’ve seen other students like – who are nonverbal; who don’t make eye contact; who don’t interact; or you see it in movies and tv and then when you have a student that isn’t like that, then it’s almost a surprise that, ‘Oh, they’re technically autistic?’ Like, that’s – like, my student now, you can tell something’s a little off – he’s a very mechanical speaker; very, like, kind of linear with his thinking, but ... I can talk to him just fine; he can follow directions; he can do what he needs to do ... the average person I don’t think would have realized it. (personal communication, February 3, 2018)

Tanya discusses how, for many teachers, it is difficult to identify students with HFA. She explains how a kindergarten student with HFA in her school talked with a specific rhythm and preferred routines but did not demonstrate stereotypical behaviours, like rocking, which may be associated with autism. He was simply “a little quirky!” (personal communication, February 3, 2018). Tanya speculates that challenges are more likely to develop in the older grades as curricular demands increase.

Tanya observes how her current student with HFA is often the most responsible in the class: “So, as a teacher, when you want to have your class in a routine, I find, like, I can always rely on him. Like, he knows what’s going to be happening. He knows how I like to do things” (personal communication, February 3, 2018). The student, while not very social, has a small group of friends in the class, some who also have identifications. The rest of the class are not tuned into any specific differences the student may have. Tanya articulates his area of need as communicating his thinking, especially in math. He will often skip the sections requiring a written explanation and Tanya often spends extra time decoding his math tests to work her way
through his way of problem-solving:

communicating is part of the mark. It’s not just whether you got the right answer and in
the questions where I say, ‘Okay, explain your thinking’, ... he’ll either not do that part
or the way he’s worked out the problem at first glance, I’m like, ‘I have no idea what you
did!’ and I have to take a few minutes to try to work out ... how he went about doing it ...
does make. It’s not the way I would have done it ... I don’t know if I would consider them
actual weaknesses. Like, in the traditional sense, yes, but if that’s their way of thinking,
then we’re-we should be open to that. (personal communication, February 3, 2018)

Tanya wonders whether knowing more about how her student with HFA thinks would help her
in planning for her student and whether his academics would improve, although she is satisfied
with his current level of achievement. She also confides that she has concerns that she would not
be as effective at dealing with behavioural challenges of individuals with autism without an
understanding of the root cause. She believes other teachers have similar concerns and
professional development needs.

**Integration and Diverse Classroom Needs**

Tanya is very forthcoming about the demands of teaching and how she has feared burnout
in the past and so has developed boundaries in order to be present at home when the teaching day
is over. She finds it difficult to balance pressure from parents, teaching responsibilities, limited
planning time, and supporting all her students to their fullest potential, especially her six students
with special needs:

if we’re expected to teach the regular curriculum, assess the regular curriculum for
everybody in the class – and I’ve got 27 kids in the class – and then you’re putting in
these other kids who have, you know, whether or not it’s high-functioning or not, like,
any kind of additional learning disability or delay or needs, it’s on top of what I already have to do and, like, I don’t stop all day. It’s literally as soon as I get there until I leave, I’m constantly going – and that’s just my regular planning and photocopying and marking and working with the kids. And then on top of it, to be like, ‘Oh, I need to take a look at his IEP and make sure I’m accommodating what I need to be doing and changing this or that or checking with him’, it’s just – it’s too much for one person. It’s impossible to do. (personal communication, February 3, 2018)

Tanya finds that, while she reads and understands IEPs, she does not have the time to refer to them when planning every lesson or activity. Her students with unique learning needs often get the same tests or assignments and she makes accommodations on the fly if she sees a student is struggling. Tanya explains she regularly accommodates for the whole class, as she finds most strategies work well with all her students. She uses strategies such as clear, concrete communication; avoiding abstract language; explaining concepts in a variety of ways; incorporating visuals and technology into lessons; and creating visual instructions to aid students in remembering how to complete the work or what comes next.

Tanya wishes there was more time available to teachers to research how to better support their students or to meet with the special education teacher or other colleagues supporting the same students in order to jointly plan and support one another. Tanya’s greatest frustration is the inconsistency of personnel support available to her. While there are two educational assistants that come into her classroom at scheduled times, they are often called away to support elsewhere or are scheduled during a subject like health where the support is unnecessary. While some teachers advocate for more support when they have high needs in the classroom, that necessitates that the existing educational assistants be removed from another teacher’s class and so Tanya is
uncomfortable doing that. Tanya observes that, without a regular presence, the educational assistants can be uncertain of what has been taught and do not know what to do. They sometimes seek teacher direction when Tanya is trying to teach other students. At times, Tanya asks them to go with a student to another location to work and does not feel they are being utilized effectively. She wishes more educational assistants could be hired at the board level so that more support could be available on a consistent basis.

**Case 4: Jill**

Jill is an elementary teacher, certified at the primary and junior levels, who has taught in the private school system for 5 years. Jill is passionate about teaching and takes pride in getting to know students and figuring out how to support their learning. She sees her purpose as a teacher as having a positive impact on the growth and development of children.

She is currently on a maternity leave. She was recently hired by a public school board and will begin in this new setting as an occasional teacher next school year. For the purposes of this study, she spoke to her recent classroom experiences in the private school system. She describes the student population as from affluent backgrounds, though there were also families who received subsidized tuitions. Her most recent school was mid-sized and administration had concerns about declining enrollment.

Jill takes advantage of and enjoys learning from professional development when it is available to her. She values the opportunity to learn something new, have time to implement these ideas in her classroom, and then regroup to discuss with colleagues about how it is working.

**Professional Development**

**Pre-service.** Jill worked as a swimming instructor and a camp counsellor in her teen
years. She earned her Honours Bachelor of Science in Food and Nutrition from an Ontario university. She planned on pursuing further education and considered whether to go into education or to apply for a dietetics internship. She says, “When I came to that ‘crossroads’ in my life, I realized that I wanted my career to involve working with children in a teaching capacity in the classroom” (personal communication, August 27, 2018). She applied to and was accepted into a 2-year Master of Arts program at an education faculty at another Ontario university. Here, she worked toward a Master’s degree as well as her teaching certification. She does not recall her courses focusing on supporting students with HFA or special needs.

**Ongoing professional learning.** Jill finds any and all professional development opportunities to be valuable to her as a teacher. When she first graduated with her teaching certification, she worked toward her Special Education Part 1 additional qualification. While she was working as a special education teacher within the private school system, she received a partial subsidy every few years from administration which helped to cover the cost of her Special Education Part 2 course. The course resonated with her as she was “doing and learning at the same time” (personal communication, January 20, 2018). She has also certified in Tribes Community Learning.

Jill had any professional development specifically geared toward HFA, though she would be interested in pursuing this if it were available. Jill has attended some workshops which covered topics such as mental health and well-being for students with ADHD, anxiety, and executive function deficits. She has also attended Reading for the Love of It, an annual literacy conference with a variety of speakers and presentations. Through her school, Jill participated in some professional learning communities on IEP development and implementation, and 3 math-oriented sessions. Informally, she deems learning from conversations with colleagues and parents as important for her professional knowledge.
Ideal professional development models. Jill thinks back to her first year as a teacher and although she had no students on an IEP, she feels that she could have supported her students more if she “had more strategies under my belt” (personal communication, January 20, 2018). She argues that, even if a student had been on an IEP, she would not have known how to implement it. In talking with other teachers, she is convinced teachers are overwhelmed by the pressure to meet the diverse needs in their classrooms, particularly when a student is exhibiting challenging behaviour. She discovered as a resource teacher that IEPs can be confounding for teachers: “Not everybody knows how to read them ... what a diagnosis means or ... strategies may be listed but they may not understand, um, in what situations to implement them” (personal communication, January 20, 2018). These are topics of professional development that should be made available to teachers, especially in the beginning stages.

In considering formats for professional development, Jill is open to different models. She has liked workshops and also values having a “point person” who she can “confide in and sort of throw ideas back and forth” (personal communication, January 20, 2018). However, she suggests a course with a series of workshops over several months would afford teachers the opportunity between each one to implement, um, what they’ve learned ... teachers hate it when you give them more work to do on top of the work they already have but if ... [it] will help their teaching and will help the flow of their classroom, then they’re going to do it and ... if they can implement something and bring it back and then say, ‘Okay, this is what I experienced. This worked, this didn’t’, and build from there, then ... that’s beneficial. (personal communication, January 20, 2018)

Jill weighs other factors that impact whether or not she or other teachers would participate in professional development. She lists cost, support from administration, and whether
or not it is offered through the school. She feels strongly that professional learning should be part of the teaching day or as part of a staff meeting, with the proviso that the meeting be shortened “and then you tack on the workshop to that so that you’re not taking away more, you know, personal time from the teachers or you’re not doing it, let’s say, during their lunch hour” (personal communication, January 20, 2018) when teachers are decompressing or preparing for the next lesson.

**Teaching Experiences**

After graduating from her graduate program, Jill found employment as a teaching assistant in a Grade 3 classroom in a private school. In this capacity, Jill travelled with students on rotary, assisting any students who needed it. She found a teaching position at a different private school for the next school year, where she taught Grade 4 for half a day. The curriculum was condensed as the second half of the day was specialized language instruction. In her second year at the school, Jill became a resource teacher supporting primary and junior students in math and language. She found this year to be an asset as a teacher as she “became more familiar with IEPs, and different kinds of supports and accommodations and modifications” (personal communication, January 20, 2018). Students were integrated during her support blocks. For her last 2 years at the school, Jill taught Grade 1 for half a day in English.

**Teaching and Classroom Context**

In Jill’s most recent classroom, she had 19 students in Grade 1. Her favourite teachers growing up created a welcoming atmosphere in which she felt comfortable taking risks, exploring, and learning from mistakes. She strives to create this culture in her classroom.

Jill is “firm, fair, consistent” (personal communication, August 27, 2018) and uses proactive classroom management, like co-constructing classroom expectations with students at
the beginning of the year. She speaks with previous teachers, parents, and students to get a sense of what drives each student so that she can “use those interests to engage them and-and, um, help them with their productivity and success” (personal communication, January 20, 2018).

When planning lessons, Jill contemplates the various learning styles of her students and what accommodations or modifications may be needed to "level the playing field" (personal communication, January 20, 2018) for students. She brings lessons to life off the page, preferring hands-on learning, centres, groupwork, partner sharing, and technology. Students experience a concept using different modalities, whether it is creating a pattern on the SMART Board, with markers, by cutting out a sequence of shapes, or by repeating two jumping jacks and a crouch. This enables students to show their knowledge in different ways. She gradually releases responsibility for learning to students throughout the year.

Knowledge and Understanding of HFA

Jill gives herself a mark of 5 out of 10 for her knowledge of HFA. Her rationale is that she does not have autism-specific training, although she has hands-on experience teaching students with HFA and in special education. She feels confident in the tools she has learned and used with previous students and would consider whether these might work for any future students, and knows she can also tap into the knowledge and experience of colleagues. She rates her confidence supporting learners with HFA as 6 or 7 out of 10. What she knows about HFA she has learned from teaching, online sources, reading, notes taken in her Special Education qualification course, and conversations with colleagues or parents. She believes establishing continuity in approaches across settings is fundamental to student success, a lesson exemplified by the time she learned that the parents of a student with HFA used a phrase, ... ‘Let’s turn it around’. Like, specifically those words. So, I used that in school
and they were using that at home so it increased the effectiveness where, instead of me saying something else, um, to try and get the same effect. (personal communication, January 20, 2018)

Jill has taught two students with a confirmed diagnosis of HFA, and she and colleagues suspected two other students were undiagnosed, presenting with characteristics. She recounts what these students were like and describes them as intelligent, fully capable of learning and demonstrating their knowledge ... fully able to succeed ... you just have to sort of level the playing field and meet their needs so that they can succeed ... if it’s um, you know, putting tennis balls on the bottom of chairs in the classroom so that they’re not distracted by certain noises ... if that need is met, then they can hopefully do what they need to do. (personal communication, January 20, 2018)

She notes that her students with HFA had “successes socially, personally, [and] academically” (personal communication, January 20, 2018) in her classroom.

She fondly recalls a creative student with HFA in Grade 5 who loved to build contraptions and would bring them with him everywhere, regardless of size. In their portable, students worked at shared tables rather than desks and the student seemed unaware of the amount of space he was taking up. Peers were sometimes frustrated with him and he did not seem to care or understand their perspectives. He was very receptive to learning through lessons but his output was reduced due to difficulty writing. Jill would scribe for him.

A Grade 1 student, who was not diagnosed because of his young age, was “like a beaver” (personal communication, January 20, 2018), gnawing on pencils and with a pile of pencils and shavings under his desk. He would touch things impulsively and had difficulty sitting still. This student would occasionally have accidents and students would notice. Jill did her best to quiet
them in a positive manner and to let them know it was being dealt with and not to draw attention to it. Jill found him to be bright and he responded well to replacement behaviours such as gum and chew fidgets and other sensory tools to help him to focus and keep his hands busy. Once these sensory needs were met, the behaviours reduced significantly.

Another student in Grade 1, who also did not have a diagnosis, had “an obsession with Minions” (personal communication, January 20, 2018) which Jill turned into a reward system to motivate him to complete activities and tasks throughout the day. She remembers how he was disorganized and needed visual checklists which he could check off to help him remember what to take home or how to get ready at recess. This student was highly motivated by notes on his success going home in a communication book.

Staff at Jill’s school tended to become familiar with all of the students in the school and she felt they were understanding of students with HFA. Still, Jill feels she and other teachers could benefit from understanding key behaviours or characteristics of HFA and corresponding strategies to use, such as how to help the student to integrate with peers. She hopes that these could be used to help students with or without a diagnosis.

**Integration and Diverse Classroom Needs**

One of the challenges for Jill in the private school system was delivering the Ontario curriculum in a condensed period of time, as students received an alternative language curriculum in the afternoons. She did not have an educational assistant, though a resource teacher came in 3 times a week during reading groups. With 2 students with characteristics of HFA in a class of 19, she articulates finding it hard to juggle and to make sure that they were getting the best support they could and other kids were getting the best support they could because it wasn’t like ... the typically-
developing students were all, you know, on the same level ... Because in the classroom –
as you know – everyone’s not the same except for the kids who may be on the spectrum!
(pen communication, January 20, 2018)

She posits that, especially in younger grades or when a classroom has exceptional
learners, an educational assistant would be an asset and could make the difference for
students who were not achieving to their full potential. Jill also found it trying to conduct
frequent one-on-one reading assessments with her students without having another person
to help manage the rest of the class. She describes it as “daunting” and “frustrating”
(pen communication, January 20, 2018) to balance the needs in the classroom,
mitigate concerns of parents, and please administration. On some occasions, despite a
supportive administration, she felt her hands were tied and that she might get into trouble if
she were fully transparent with parents about how their child’s needs were being met by
the private school system, as the school relied on tuition fees to operate. The school had
resources like technology but lacked special education resources or programs to support
struggling learners. She speculates that, in the public school system, students not only
experience the benefits of integration but they have access to withdrawal supports based on
their levels and needs.

Teaching students with HFA has opened Jill’s eyes to how “there’s more than one way to
do things” (pen communication, January 20, 2018) and she describes her teaching as “much
more dynamic” (pen communication, January 20, 2018) as a result. Peers, too, benefit by
learning there are many kinds of people who all have their own needs, and over time, they
become more empathetic. Jill is a big believer in reducing stigma around accommodations and
offers a variety of free-access tools to her students. Students knew they could use wiggle
cushions, stress balls, strips of Velcro affixed to desks, fidgets, tennis balls on chair legs, and noise-cancelling headphones if they needed them, so long as they used them appropriately. She explains why she extended these privileges to the entire class:

a kid who would always sneak toys from home and bring them and then be on the carpet and playing with them is a distraction to him and somebody else, so giving him something that’s acceptable – but also having ... squeeze balls, um, accessible to the other kids if they need to keep their hands busy so he’s not just singled out and targeted – that was helpful and there were, you know, rules. So, you obviously can’t throw it; you have to keep it in your lap; if it becomes a distraction, you lose it. Or ... a kid who, um, couldn’t sit still on the carpet, if they could bring their chair up to the carpet and they weren’t the only ones with their chair at the carpet so, again, it’s not singling them out. And that just keeps their bottom stable. (personal communication, January 20, 2018)

As a result of these learning aids, she noticed greater attention spans and increased productivity. She jokes that while chewing gum was available to her student who chewed pencils to bits, that one was “not a free-for-all for everybody!” (personal communication, January 20, 2018). She also is attentive to academic accommodations students may need, such as assessing students orally or scribing for them if they have fine-motor difficulties; assigning one page at a time; or presenting one question per page.

Jill emphasizes how she finds it rewarding to figure out what is motivating to students. She uses frequent positive reinforcement and reward systems, such as having a student earn stickers of his or her favourite character for tasks completed throughout the day. She sometimes uses communication books to inform parents about their child’s day and she relishes seeing children who are proud to bring it home.
Case 5: Evelyn

At the time of this study, Evelyn had just begun her retirement after 31 years of teaching, a profession she describes as “a privilege” (personal communication, November 18, 2017). She is certified to teach junior, intermediate, and primary divisions. For approximately two decades, she has taught at the primary level in an inner-city school located in a large urban board.

Evelyn speaks candidly about her early experiences as a child in the foster system who was later adopted and the impact these had on her teaching and her personal life. Consequently, her goal as a teacher has always been to “love other children who, like me, may have felt unworthy, less than, unwanted in their lives” (personal communication, August 22, 2018). As a teenager and young adult, she had worked at inner-city summer camps, had taught horseback riding to people with disabilities, and had run a camp for children with behavioural challenges who had been kicked out of other camps. As a teacher, she is passionate about supporting all of her students and believes that inclusion improves learning for students and teachers, alike.

Throughout her career, Evelyn took part in many professional learning opportunities but expresses a preference for learning from colleagues. She envisions effective professional development as job-embedded support which is practical and relevant to teachers’ classroom needs; which builds on what teachers are already doing and honours their existing expertise; and which allows teachers to problem-solving in dialogue with colleagues.

Professional Development

Pre-service. Evelyn completed a 3-year Bachelor of Science specializing in psychology and with minor in English. Her mother counselled Evelyn to consider three potential career paths: being a teacher, a secretary, or a nurse. She then chose to enroll in a Bachelor of Education program. As part of this program, she took her Part 1 Special Education additional
qualification course, specializing in learning disabilities. She does not recall any training on autism and commented that children with autism were considered quite severe cases and were segregated in special classes.

**Ongoing professional learning.** Evelyn places a high value on learning. Early in her career, Evelyn took her Special Education Part 1 and 2 additional qualifications, eventually working toward her Specialist qualification. She has also earned her Environmental Science Part 1. Mid-career, she returned to school to earn her Master’s degree. Although now retired, she is currently enrolled in doctoral studies.

Throughout her career, Evelyn has “been in-serviced in every which [way] possible” (personal communication, August 22, 2018), including in music, art, drama, gym, special education, math, literacy, and ESL. Evelyn feels that in-servicing benefited her more as a beginning teacher; although more recently, she enjoyed EQAO testing training, which increased her confidence and knowledge base. She explains that many of the professional development presenters came across as inexperienced or condescending, and they did not provide any new ideas, strategies, or practices grounded in research. She described it as a challenge to be “a reflective, intelligent teacher, who has done a great deal of thought about how to run a classroom, and no one acknowledges your abilities and expertise – except, of course, your staff who see and work with you” (personal communication, August 22, 2018). Evelyn also experienced what it is like to be a presenter and has delivered professional development on graphic organizers to other teachers.

Evelyn cherishes the opportunity to learn from colleagues and mentions learning extensively from an educational assistant who had a background in autism. Evelyn reports that she received training on autism, which focused on pictorial communication systems, only once in
her career, in her second-last year of teaching. She recalls that this workshop, which took place over a day and a half, left the impression that there was only one “right way” (personal communication, August 21, 2018) to teach children with autism and she “felt like I was there to get information from the ‘experts’ and [that] I had no intuitive knowledge with anything experience or creative ideas to offer” (personal communication, August 21, 2018). There was no time allotted to discuss what teachers wanted to learn or to brainstorm how to respond to challenges in their classrooms.

**Ideal professional development models.** Reflecting on her early days as a teacher, Evelyn recollects how she would have benefitted from a mentor to provide guidance on how – and how much – to support students, where to prioritize her attention, and to increase her confidence in her decision-making. When asked about her needs when she first had a student with characteristics of HFA, she relays her ideal professional development would have illuminated the characteristics of autism; asked teachers to share what was working in their classrooms and what they wished to address; and focused on

[tried and true] strategies that other teachers had used ... that would help when especially the classroom was having difficulty or other children were having difficulty with that peer. I think peer to peer instruction, what sort of things I could have done to help other children interact better would have been really helpful, more than anything. (personal communication, November 18, 2017)

Evelyn believes professional learning should focus on practical ideas to help teachers to build their capacity and to feel less afraid or alone. She supposes teachers are more likely to participate in professional development if it is funded, if time is given, if administration is supportive, if teachers’ experiences are valued; and if teachers have the emotional energy to engage in the topic at the time it is offered. Another factor is that the learning must target their
most pressing classroom issues, as there are many needs to balance in the classroom. She advocates for time being given for “colleague-to-colleague work” to develop a “team approach” (personal communication, November 18, 2017) to meet the needs of a student with HFA and to discuss their experiences and share ideas. She would have welcomed regular classroom visits from an expert in teaching children with autism who could model what to put in place over a couple of weeks or collaboratively problem-solve how to better support a particular student.

**Teaching Experiences**

Evelyn has had a multitude of teaching experiences over her 31-year career. She has taught both English and Grade 3 in South America, the latter which she taught in Spanish. In Canada, she has worked in elementary and secondary schools, in outdoor education, in adult education, and in the private school system, where she taught intermediate students with learning disabilities. For the majority of her career, she has worked as a primary school teacher. She refers to Grade 1 as “my specialty, by far” (personal communication, November 18, 2017).

Evelyn is able to speak to many changes to the teaching profession over the years. Twenty years into her teaching career, Evelyn witnessed a significant culture shift in the teaching profession:

So, I think my whole feeling of meeting needs was you always look to the children to drive what you’re going to teach. Whereas when the curriculum came in in [1997] and it was black and white, then the driving force became the curriculum, not the children. And I noticed the change in young teachers coming in. (personal communication, November 18, 2017)

In her view, standardized testing has increased pressure on teachers and on students to achieve the same benchmarks and she describes schools today as a “fear-based environment”
She also has observed a change in motivations for entering the profession:

> when we went into teaching it was like your heart and soul ... you really, really loved the kids and you-you didn’t do it because you got a good pension or you got good money and-and I think that teachers who come now – there’s a lot of 5-year track teachers who 5-year track into principal hood ... I find that really problematic. In 5 years, you don’t – it takes me 5 years to know one grade! (personal communication, November 18, 2017)

However, she has also noticed an increase in autism awareness in schools and amongst school staff, which has translated into increased understanding of children with HFA. In her early days, many teachers turned their heads when a student who stood out as different was bullied. Now, with HFA becoming better known, Evelyn comments that bullying of these students is “no longer ‘socially acceptable’” (personal communication, November 18, 2017).

**Teaching and Classroom Context**

Evelyn is a holistic educator. Her deep care for students and their families is evident. She shares about friendships formed with parents, feeding hungry students at school or by bringing food to homes, finding furniture for families without, and fostering students. Her classroom is brimming with literacy, languages, centres, music, joy of learning, care for one another, and opportunities to engage with nature. She describes it as “havoc everyday” (personal communication, December 2, 2017), a bustling class where experiences such as hatching and raising ducks is integrated across subject areas and modalities. She is frustrated when students are pulled for withdrawal services as they often struggle with the transition and Evelyn prefers to foster a collaborative community of learners. She thinks all students are capable in the right environment and with an adult who believes in them. Rather than focusing on grades, she
carefully observes each student and gets to know them as individuals in order to program for their individual growth. Two years ago, she decided her Grade 1 students needed “to do something completely different, and I’m in my second last year. What do I care? I’m going to do whatever they want to do and they will learn” (personal communication, December 2, 2017). She took part in a pilot program for an application which enabled students to take photographs and narrate about what was important to them using iPads. Evelyn situated the projects within curriculum expectations but empowered the students to be responsible for their own learning and to express how they wished to be assessed. The students thrived and she describes it as “the best experience of my life” (personal communication, December 2, 2017).

**Knowledge and Understanding of HFA**

Evelyn is very confident in her ability to meet the needs of her students with HFA, and rates herself as an 8 or 9 out of 10. She admits that, at the beginning of her career, this was based on intuition because she was never taught about autism until the end of her career. Therefore, in considering her knowledge about HFA, Evelyn gave herself a 5 out of 10. She maintains that she has always been comfortable finding information she needs, either by sourcing her own material or by drawing on colleagues, parents, or students themselves. She designates colleagues as her “prime, number one source” (personal communication, November 18, 2017), citing an exemplary educational assistant with knowledge of autism who she worked with as someone she would approach for help and feedback.

She believes she has taught about five students who had or would qualify for a diagnosis of HFA. In her second-last year of teaching, she taught two students with HFA. When asked to explain HFA, Evelyn states that high-functioning children are children who have good, um, cognitive knowledge of
subject areas but not necessarily picking up the cues of how to interact with other children and they often at the beginning, I think, come across – um, in kindergarten or Grade 1, people refer to them as odd often, and, um, introverted or shy. And-and I don’t think they’re any of those things. I think that they just are responding to different stimuli. And they’re kids who often would, you know, if the fire drill came on, they would-[gestures covering ears.] they would just be unable to cope with that. Yet could read something about what that was and understand how it worked. [laughs.] (personal communication, November 18, 2017)

In sharing specific examples, Evelyn describes many characteristics of HFA. She describes a female student who she taught before HFA was a diagnostic category but who she feels would qualify for a diagnosis today. This primary student connected strongly with drama and reading but who found it difficult to connect with other children and was considered unusual. By the junior grades, she was being badly bullied and ostracized and was removed to a private school. Evelyn remains in touch with the family and reports that, the young woman is now well into her 20s and though not yet fully independent and lives at home, she does volunteer work and runs a technology-related business.

Evelyn’s anecdotes also highlight the scattered skills and picture of strengths and weaknesses of students. Evelyn recalls another female student in Grade 1 with diagnosed HFA had advanced reading and writing skills but struggled with math and fine motor skills, which caused the girl much frustration. She demonstrated a preference for adults and avoided interactions with peers.

Evelyn is clear that each of her students with HFA were valued members of the class. She expresses, with clear admiration, how a creative boy in her class could make structures out of
found materials in the classroom, replicating the CN Tower and other landmarks in great detail: he had the precision ability to look at something and be able to, um, to be able to cut it, cut and paste things and tape them ... and make extraordinary, um, 3D representations of different things he liked in the classroom. And other kids picked up on that and they wanted to learn from him. ‘How do I do it?’ ‘How did you do this?’ you know, ‘What did you make here?’ and he would make things for them and for other kids in the classroom ... that strength became a strength for other kids, too – to learn to do, because they had no ability to do it. Their fine motor skills were, like, nothing compared to his and his ability to put things together in that way. (personal communication, November 18, 2017)

Another student with HFA started in her Grade 1 classroom the year of the iPad projects and Evelyn heard from other staff that he could not do anything, struggled with routines, had a temper which could escalate quickly, and was effectively mute. Evelyn keenly observed him and sensed there was more going on inside and that he was picking up on everything. She recalls that, while he did not enter Grade 1 with many letters and could not write or do math, he responded beautifully to the empowerment to choose what he learned in her classroom. Midway through the year, he began retelling stories through writing, pictures, and orally and would speak for so long at show and tell that Evelyn would have to ask him to continue the next day. He made progress academically across subject areas and socially, fitting in with his peers and forging friendships. Evelyn recounts that

I had no idea what they were talking about in kindergarten. And from minute one – it was almost like minute one, there was a connection and then he just grew and grew and grew until he became just, like, a whole person again. It was almost like he was missing and
then suddenly he was present. (personal communication, December 2, 2017)

Although the student did not thrive in kindergarten, the teacher suggested placement in Evelyn’s classroom for Grade 1. The student had previously attended a specialized early language intervention program to learn specific school foundation skills, which harmonised with Evelyn’s teaching style. Evelyn attributes his growth in her room to this coordinated effort, which included his parents, who readily tried out any suggestions Evelyn made.

When asked what questions she has about HFA, Evelyn is curious about long-term outcomes, what research says about the causes of autism, and whether autism prevalence is actually higher today or whether it can be attributed to broadened labelling or increased awareness.

**Integration and Diverse Classroom Needs**

Evelyn speaks frankly about her thoughts on the diverse needs in the classroom and how overwhelming it can be at times. However, she self-assuredly draws on her previous experiences and her instincts and speaks positively about supporting a class comprised of many learners at varying levels. She feels the integrated classroom has promoted positive interactions and personal growth for her students and for her, personally:

> it just teaches you to be a better person. Teaches you to-to reach outside and figure out how would that person feel and how are they – you know, put yourself in their place. That sort of empathetic side. And I think teaching the kids that same thing, too, is that everyone has value. We all bring something to the table. So, whatever we bring to the table, value; and to make sure we look for it in every child and every child looks for it in themselves and in each other. (personal communication, November 18, 2017)

Evelyn has learned to utilize many strategies which benefit children with HFA and which
also support all learners in her class, such as fostering collaborative relationships with families and a positive rapport with each child; modeling compassion and respect for students; encouraging peer supporters; preparing students for and supporting them through transitions; coaching self-regulation techniques; assessing students in ways which best allow them to demonstrate their knowledge; and her holistic teaching practices which include many tangible, integrated learning activities.

The classroom environment and her teaching strategies are within her control and have generally worked well for her and her students. Her frustrations come from external sources, such as the times she has advocated for students to get assessments or greater support and she has felt the system failed the students. She finds the greatest challenge in terms of meeting the needs of children with HFA is that other staff often lack the understanding to effectively support these students. Her experiences have taught her not to listen to negative perspectives on children – or to pass them on to future teachers – but to form her own assessment of their strengths and needs:

it’s really important that when kids walk in the room, that we embrace all of them when they walk in and not ... not judge them because this teacher over here said that one was a problem and soon they’re going to be a problem. Don’t make those assumptions because they become reality. Make the assumption that all the kids in your room are going to succeed and they’re going to do well. (personal communication, December 2, 2017)

Chapter Summary

Chapter 4 took an in-depth look at the thoughts, feelings, and experiences of the study participants. Each case was presented in a similar format which highlighted their views on professional development, their teaching career, how they run their classroom, their background
in HFA, and how they conceptualize the benefits and challenges of teaching students in an integrated classroom. Chapter 5 will present the findings from cross-case analysis.
Chapter 5: Findings and Discussion

This chapter explores three findings that emerged through cross-case analysis of 5 individual case studies. In the first theme, I explore the impact of experiences with learners with HFA on teachers and students. As a result of hands-on experience with these learners, participants experienced positive changes to their teaching practice and strengthened their relationships with colleagues. Moreover, a greater number of experiences with learners with HFA was associated with higher teacher self-efficacy and understanding of HFA. The second theme investigates participants’ thoughts on meeting diverse needs in the classroom and the many barriers they perceive as impacting their abilities to support all learners. The third theme synthesizes what teachers envision as the ideal professional development to support teacher learning on HFA and in general, identifying factors which influence their participation, characteristics they seek in their professional learning, and preferred formats of professional development. The findings within each theme are analysed and situated within the relevant literature.

Finding 1: Familiarity with Students with HFA Positively Influenced Teachers and Students

Most participants in this study had received no professional development on HFA prior to teaching a student with HFA, a finding corroborated by research (Able et al., 2015; Barnhill et al., 2011; Lambe, 2007, Rosenweig, 2009 as cited in Busby et al., 2012; Myles & Simpson, 2002; Safran & Safran, 2001). Participants in this study reported they learned about HFA primarily through hands-on teaching. Not surprisingly, participants with more experience supporting learners with HFA demonstrated increased understanding and confidence meeting their needs. As a result of teaching students with HFA, all participants reported positive changes
to their teaching and planning, which also benefitted other students in their class. Several
participants reported developing positive personal traits because of students with HFA. It is
noteworthy that no participant expressed a desire for students with HFA to be taught exclusively
in a segregated class; integration was assumed. Four participants sought out opportunities to
dialogue with colleagues as a means to strengthen their ability to support students with HFA,
deepening collegial relationships. Most also reached out to parents as well. Participants felt
integration of students with HFA promoted a kinder classroom culture in most cases, and 2
participants believed this effect intensified when diagnosis was shared with the class so that
students better understood the needs of their peer with HFA. Views on the understanding of other
staff members’ understanding of HFA were mixed, though participants reported a detrimental
impact on relationships with students with HFA when staff lacked understanding of HFA or were
unaware of a child’s diagnosis of HFA.

**Greater Confidence Associated with More Experiences Teaching Students with HFA**

Multiple studies have linked a greater number of experiences teaching children with
autism to a teacher’s confidence level in supporting learning outcomes for all students (Anglim,
Prendeville, & Kinsella, 2018; Gregor & Campbell, 2001), also referred to as self-efficacy.
Teacher self-efficacy can be influenced by a teacher’s perception of available supports and
resources to meet the needs of students with ASD (Anglim et al., 2018) and is unrelated to
number of years teaching (Ruble et al., 2011). In the present study, teachers who reported higher
levels of confidence in their individual rating and throughout their interviews had more direct
teaching experiences with learners with HFA. Through working with different students with
HFA, they came to appreciate the individual needs of these students while also generalizing the
areas of support that were fairly consistent across students with HFA. It is important to mention
that all the teachers in this inquiry wanted to support learners with HFA to the best of their ability. However, research demonstrates that some teachers do not feel comfortable meeting the needs of children with HFA (Able et al., 2015; Linton et al., 2015) and may feel that special education teachers should be responsible for their education (Busby et al., 2012).

Tanya, while an experienced teacher, has the least experience supporting children with HFA. While she suspected some of her previous students had HFA, at the time of the study she was supporting her first student with a formal diagnosis of HFA. She rated her knowledge as average and her confidence was also in the average range, based on her thorough reading of IEPs and consideration of the suggested strategies and accommodations for each student. However, throughout the interview she repeatedly stated that she did not have much experience. She expressed discomfort at the thought of being put in the autism class and feared if behaviours happened she would be unable to address them. While her student with HFA was considered different by other students and was not very social, he had a small group of friends with special needs, and he kept up with the classwork. She found it would be easy to miss that her student had HFA and so she worried sometimes that she was not supporting him as much as she could with more knowledge of HFA. She felt she possessed a better understanding of what a child on the lower end of the spectrum could or could not do and wished she had professional development to help her to navigate this. She remained curious about what HFA is, how it differs from autism, how to deal with challenging behaviours, and how students with HFA differ in their thinking and the impact of that on academics. She expressed that, as a result of having taught a student with HFA, she was less nervous about teaching future students with this diagnosis. Tanya’s insights mirrored results from a study by Linton et al. (2015), which found that teachers with less experience teaching students with HFA tended to focus on challenges, behaviours, and different
thinking; as well as teacher research by Anglim et al. (2018) which found that teachers with less experience or training in teaching children with autism were more apprehensive initially and expressed uncertainty about responding to behaviours, though their confidence levels improved throughout the school year with more hands-on experience. This indicates that more work needs to be done to educate teachers and school staff about HFA.

Jill, a beginning teacher, had worked with two diagnosed students with HFA and two students she suspected to be undiagnosed. She did not have specific training in HFA but had taught as a special education teacher for several years which helped her to develop a trial and error approach to find out what accommodations or strategies worked best for learners. She felt she had average knowledge and medium-high confidence, particularly if she had colleagues at her disposal. She stated her confidence would be lower without the opportunity to confer with colleagues. She also valued collaboration with parents. Jill wanted to know more about what key behaviours or characteristics indicated a child might have HFA and what corresponding strategies could be implemented, even without a diagnosis; and how to help students to integrate successfully with peers. She felt all teachers could benefit from access to this body of knowledge.

Evelyn, in her 31 years of teaching, had worked with multiple students with an HFA diagnosis as well as multiple students who she suspected of having autism, including two students with HFA in her Grade 1 class. She had attended a professional development session on autism – though not HFA – in the past and her holistic approach met each student at their own level. She frequently sought feedback on how she was meeting the needs of students with HFA from an educational assistant with autism expertise and would work closely with families. She rated her knowledge as average and her confidence level was high. She had questions about
long-term outcomes of people with HFA, causes, prevalence, and would have enjoyed PD on
effective strategies and how to support peer relationships, improve interactions, increase
independence, and address behaviours.

Chivonne had worked as both an educational assistant and teacher and had, along with
Leah, taught the greatest number of students with a diagnosis of HFA. She also had a student in
her class she believed might qualify for a diagnosis. She had not received any training on HFA
but felt that being assigned to several students on a one-to-one basis as an educational assistant
had given her first-hand experience and insights into appropriate supports and strategies. These
experiences helped her to feel a connection with people with autism. She stated she felt
comfortable working with this population, and rated her knowledge as average and her
confidence as average to medium-high. She also drew on colleagues and parents for additional
information to support learners with HFA. She stated she would like to learn more about the
thought process of children with HFA; strategies she could use to help students further along and
to support them behaviourally, emotionally, socially, and with communication.

Leah, though in the early stages of her career, had supported five students with a
diagnosis of HFA in a few short years. For the last 3 years, Leah has had more than one child
with HFA in the same class and she has also taught two students with HFA for 2 consecutive
years. She also received a half-day targeted training on strategies to support learners with HFA,
enjoyed researching on her own time, and worked closely with parents as well as special
education and autism resource teachers. Consequently, she rated her confidence and knowledge
level as high. Leah did not have questions about HFA but indicated she would always welcome
more strategies and materials.
Changes to Practice

Research suggests that teacher understanding of HFA is often limited and may have an impact on their ability to support the learning of students with HFA (Hinton, 2008; Nicol, 2008; Safran & Safran, 2001; Shepherd & Waddell, 2015). It is auspicious that, despite facing some challenges in being able to meet the needs of children with HFA, that teachers in this study coped in productive ways, by reflecting on their learning, developing new teaching practices, and seeking out advice and support from colleagues. While only 1 participant had received professional development on the needs of children with HFA, all the participants in the study reported changes to their teaching practice as a result of having a student with HFA in their class. This finding is consistent with Anglim et al. (2018), who discovered that teachers found creative approaches to help support learners with autism despite a lack of access to resources. All teachers in the current study also reported that the accommodations they made for children with HFA benefited other children in the class and these new tools added to their existing repertoire to support the diverse learners in their class. Teachers who had supported more learners with HFA also prioritized the social needs of learners with HFA in addition to academics. Four teachers reported increased collaboration with either colleagues or parents due in order to develop effective strategies.

Tanya, the teacher with the least experience working with students with HFA, already utilized strong teaching practices that would benefit all students, such as clear expectations and using visuals to enhance learning. Because of her student with HFA, she realized she needed to “try different ways of explaining things to them; different ways of communicating with them; being more, like, kind of linear or more, um, not so abstract in my talking; being very to-the-point” (personal communication, February 3, 2018). She was more aware of HFA as a factor she
would need to consider, though without training, she was unsure of the impact it might have on academics. She described how, if she observed her student with HFA was struggling, she would use accommodations reactively and she would reference the IEP and problem-solve to adjust her planning.

Research shows teachers with more teaching experience with HFA are more likely to focus on strategies, accommodations, and inclusive practices (Linton et al., 2015). This study affirmed that teachers who had the benefit of having taught more than one learner with HFA had developed proactive accommodations and utilized their planning time to build these into lessons. They also felt teachers needed help learning how to integrate students with peers. Interestingly, teachers with three or more students with HFA expressed a heightened concern for the social success of students with HFA, moving beyond integration by articulating strategies they used to promote friendships in the class. Jill, a new teacher who had a special education background and had taught two diagnosed students with HFA, already utilized differentiated instruction, but teaching children with HFA helped her to come to understand the importance of forming rapport and incorporating interests into activities or motivation systems to increase success. She considered child development from a holistic perspective which considered the academic, social, mental, and physical well-being of students and learned that sensory tools improved productivity and focus of learners with HFA and reduced any challenging behaviours, and she extended this privilege to the entire class to reduce stigma.

Evelyn, a long-time teacher who also emphasized holistic teaching, reflected that she initially was very protective of students with features of HFA and eventually learned to help them to express themselves and be part of problem-solving issues with peers or teachers that might arise. She found learners with HFA taught her to “be aware and present” (personal
communication, November 18, 2017) and she was conscious that how she treated each child would be replicated in the behaviours of her other students. Evelyn also learned not to make assumptions about what a child with HFA was capable of and that,

just because a child can’t demonstrate it, doesn’t mean it’s not sitting in there. It could very well be sitting in there. We have to try to give them as many means as possible to demonstrate information and to communicate with us because sometimes the-the means in which we’re using are too narrow and they can’t-they can’t demonstrate it because we haven’t given them enough ways to demonstrate it to us that work for them. (personal communication, December 2, 2017)

Evelyn also witnessed how well students with HFA responded to being in control of what they learned, and embraced their interests in her teaching. Evelyn determined to make up her own mind about each child, reading the reports later on in the school year. She also realized the importance of tempering information she passed on to other teachers with what the child with HFA could do well and strategies that worked for her to support that particular student. Evelyn also maintained her approach to all children changed, as she felt she became kinder and more empathetic as a result of teaching learners with HFA. She expressed gratitude for having learned more from them than they learned from her, “because they taught me to interact in a different fashion – and other children around them – and I think that’s the goal in having-having, um, an integrated environment is we learn from each other” (personal communication, November 18, 2017).

Chivonne, who had taught five children with HFA as a teacher and educational assistant, expressed how her understanding of needs of children with HFA came from working with them, and led to a perception shift:
he was just kind of, like, a weird kid that I thought. And then as I got to know him, I kind of got to see his different sides of him and kind of the struggles that he really faces... I’m trying to understand better what they need and their needs and, um, how to meet them and, um, kind of the different struggles that they go through ...

(pers

communication, November 19, 2017)

She emphasized she was more reflective about whether she was meeting the social needs of her students with HFA and to incorporate this into her planning. Like Evelyn, Chivonne maintained that she had been influenced on a personal level, becoming more patient and compassionate, and more curious about the perspectives and experiences of people with HFA.

Leah has been teaching students with HFA since her first year as a permanent teacher. She was the only teacher to have accessed any training on HFA and had incorporated many tools she learned into her everyday teaching and planning, reporting this early exposure was a “big part of my personal journey as a teacher” (personal communication, January 22, 2018).

Supporting learners with HFA taught her the importance of “making things easier in the classroom” by establishing routines to keep herself and students organized. She learned about visual schedules at the HFA in-service and began to use it in the classroom. After seeing how children with HFA responded to visuals, she began incorporating them throughout the day in lessons and to help assist with routines. She projects tasks and questions on the wall through a live video feed and reviews instructions in real time, demonstrating how to read for meaning, highlight, or correct the work. Like Tanya, Leah found she became clearer in her verbal instructions to students. Leah also tried to link student interests to the curriculum, like Jill and Evelyn, in order to increase motivation and engagement. She paid a significant amount of time
planning for and teaching to the social understanding of students. She would strategically plan
groups and instruct the whole class how to interact as a group,

Modelling the kind of language used, actually physically saying, ‘Okay, we’re going to
be doing this project together. What are the steps of how we can work with our group?
What are some of the questions we could use to-to include another member in our group?
How do we make sure everyone’s involved?’ (personal communication, January 22, 2018)

As a result of the in-service on HFA and learning strategies and from seeing how this
benefited learners with HFA in her classroom, she learned to consider everything she did as a
teacher from the lens of someone with HFA, taking the time to word questions so that they were
literal and concrete and to format handouts in a spatially appealing way. She reported a hyper-
awareness of how students with HFA do not intuitively pick up on and understand social rules:

And I know, like, before, you have all these preconceptions about what autism is or what
special needs are for students, and this has just given me a better understanding of how
teachers or how people have so many things that ... you’re like, ‘Oh, you should know
how to sit in your chair’ or ‘You should know how close you stand beside someone, or
whether you’re supposed to, uh, touch their shoulder or give them a hug’, or whatever.
But these students don’t know that and they’ve never been taught that and then they don’t
know that they don’t know that! So, it’s ... really opened my eyes to see, like, all these
social aspects that we forget about as teachers and that – especially the older grades – that
we don’t even think about having to tell them. That we think that they should know, but
they don’t. (personal communication, January 22, 2018)
This impacted Leah’s teaching and planning, causing her to think through what might be unknown and explain it for the benefit of students with HFA. She also pays attention to the social abilities and emotional state of students with HFA, debriefing to decrease anxiety and to talk through how and why to do something for greater success. She prepares all students in her class in advance for field trips because she knows that children with HFA require it and that it could help peers, too. This suggests that professional development in HFA may help teachers to hone inclusive tools to benefit others in their classrooms.

While all teachers indicated they had learned more about HFA from colleagues, 4 out of the 5 teachers reported they regularly consulted with parents and colleagues when supporting a learner with HFA. Chivonne found that regular conversations with parents helped her to understand the home life of students. Jill, Evelyn, and Leah emphasized the relevance of establishing continuity of strategies and goal-setting with home and carrying it over to school. Evelyn highlighted how families helped her to “find out their [students’] likes and dislikes, ...what things they know for sure are triggers and problems so you’re aware of them before that happens, and what things you could do that might be helpful” (personal communication, November 18, 2017).

As research has shown, collaboration on many levels is an essential support for teachers in an inclusive classroom (McGhie-Richmond et al., 2013). Chivonne, Leah, Jill, and Evelyn would all engage in conversations with other teachers or educational assistants, particularly when issues arose. Chivonne shared how more experienced teachers “have lots of stories and ... lots of ideas and for the most part, I find people are willing to help, and, um, give you suggestions” (personal communication, November 19, 2017). Leah would regularly meet with special education teachers to jointly plan for their student with HFA and found collaboration to be an
essential factor in learning strategies to support her students with HFA. Evelyn and Leah also mentioned asking the child with HFA for their input, with Evelyn stating it is important to “ask them, ‘What makes you comfortable? What can I do? And what will make you feel uncomfortable? What shouldn’t we be doing?’ And give them a chance to voice it” (personal communication, November 18, 2017). Tanya mentioned listening to an autism resource teacher speak at a staff meeting but did not mention engaging in dialogue about her own students or classroom needs. Tanya was also the teacher with the least experiences with students with HFA and expressed the least confidence in supporting learners with HFA. She mentioned how she would like someone to provide her with reassurance that she was engaging in best practices, but it is possible that she did not seek out help due to lower self-efficacy. It is also possible that, because her student was meeting academic expectations, she did not need to seek help from parents or colleagues. A future area of research might look at the association between factors affecting teacher collaboration.

The Impact of HFA Awareness on Students

Studies of teacher perceptions on inclusion suggest while there are challenges to meeting all the needs with few resources, some teachers perceive a benefit to all students (Anglim et al., 2018; McGhie-Richmond et al., 2018). Most participants in this study noted that inclusion of students with HFA in the classroom led to a kinder class, even without peers knowing about the diagnosis, which corresponds with teacher perceptions that that students learned acceptance and understanding of difference when interacting with a child with ASD (Anglim et al., 2018). Across their classrooms, it was evident that inclusive strategies and a community focused on kindness benefitted all students, and not just children with HFA. Three teachers reported their schools had engaged in autism awareness activities, and 2 participants were able to speak to the
impact of a class learning about a peer’s diagnosis of HFA and of students learning about their own diagnosis. This is in line with research that suggests that neurotypical peers benefit from gaining information about autism and can become more supportive as a result (Campbell, 2007, Carter, Hughes, Copeland, & Breen, 2001, Ochs, Kremer-Sadlik, Solomon, & Sirotta, 2001, as cited in Able et al., 2015).

Evelyn actively worked toward an inclusive classroom and found that children with HFA enriched the classroom with their talents and by influencing students to “interact differently in the room” (personal communication, November 18, 2017), although she did not disclose diagnosis to her class. She also modelled how to treat and include one another for the whole class and used kind students as “protectors” (personal communication, November 18, 2017). She did, however, note that a student with characteristics with HFA but without a diagnosis was always considered unusual and was badly bullied and ostracized by the time she was in the junior grades. Teachers who did not understand her profile did not intervene and the student was ultimately pulled from the public school system at her parents’ behest. It remains a poignant reality that children with HFA experience high levels of bullying and are at risk of future mental health disorders and lower quality of life indicators than their neurotypical peers. It is imperative that teachers learn to recognize the signs of HFA and strategies to support and integrate students.

Tanya fostered a classroom where students felt safe. She described the class as tolerant and empathetic and noted they probably considered the student “a little ... different” (personal communication, February 3, 2018). However, he did not exhibit any challenging behaviours and so did not stand out in any way. She did not find her student with HFA had any positive or negative impact on the class.
Conversely, although Jill worked hard to create community, certain behaviours made children with HFA or characteristics of HFA stand out, impacting their ability to integrate with the class and causing some frustration for peers. However, she also felt peers appreciated the talents and positive aspects of children with HFA. Students did not know specific diagnoses, but year after year in the same classes, they came to recognize there are different types of people in the world and became “more understanding and empathetic” (personal communication, January 20, 2018) with time.

Chivonne used strategies like recruiting peers to assist in her classroom, but still found it difficult when students were unaware of the diagnosis of her student with HFA. She felt it was actually a disservice to them, since knowledge could help them to become more empathetic:

we have another boy with Down Syndrome and all the kids know. Parents are very open, we do Down Syndrome Day, he’s like the star of the school for the day ... it’s a much more visual, um, like, disability, but ... they all know and they all – they’re much more willing to help him, whereas I find the student in my class [with HFA] just, like, they don’t get him. They don’t get why he does this, why he says certain things, why he gets upset really easily, they’re just like, ‘Oh, he’s ... weird or like, he’s not, like, getting along with us.’ But I – I almost wonder if ... if the students knew a little bit more would they be able to be more understanding and accepting of the-of their, like, their personalities? (personal communication, November 19, 2017)

Three of the 5 participants – Tanya, Leah, and Chivonne – mentioned school-wide initiatives to promote autism awareness and acceptance. At Leah’s most recent school, the topic was contentious amongst the staff. Some thought it would isolate and single out students with
autism, though Leah shared her experiences at a previous school where staff ran a school assembly where it had the opposite effect:

students have really enjoyed the fact that we did that because then it – they feel like they’re more included... we didn’t, like, make anyone stand up and say, ‘I have autism’...
we looked up, like, famous people with-who have HFA ... the students who had autism who were part of it were just so proud that these other cool people ... [like] the person who created Pokémon, they’re like, ‘I can’t believe he accomplished all this and he had autism. And I have autism, so I’m, like, I’m excited that I can – maybe there’s something really cool that I can do or that I can accomplish in the future, too!’ (personal communication, January 22, 2018)

Leah felt this exposure helped all students to develop an understanding of autism and to appreciate the positive aspects. There is no research on whole-school approaches to autism education, though autism-related internet searches have been shown to increase amongst the general public during April, which is known as Autism Awareness Month (DeVilbiss & Lee, 2014). Despite scant research, many school boards and schools promote initiatives to bring awareness to autism, as they do to experiences of other special interest groups, during events like Down Syndrome Day, as mentioned by Chivonne, or Black History Month. Criticisms of Black History Month (King & Brown, 2014), such as avoiding tokenism as well as the possible replication of power dynamics and reinforcing of “otherness” of students, may also be legitimate concerns related to students with autism during such events. It is prudent, therefore, that research in this area be conducted to better inform schools on how to proceed. School staff may also wish to consult with parents and students who will be affected by these events and consider intention and possible outcomes in the planning stages.
Similarly, both Leah and Chivonne had class presentations after receiving permission from families to have a special education teacher prepare a lesson to share a student’s diagnosis of HFA with the class. Teachers in this study reported diagnosis sharing led by a special education teacher was a positive experience with long-term benefits for students with HFA and peers, as it brought greater understanding of why children with HFA struggled and led to increased empathy on part of peers. Chivonne revealed that her student with HFA advocated for a lesson to his peers. She observed how, “once he kind of realized that he had autism, he kind of came out of his ... shell a little bit more and was like, ‘Ohh!’” (personal communication, November 19, 2017). To him, the diagnosis made sense and allowed him to understand the root of his difficulties with social communication. After the lesson, the class finally understood why the student acted a certain way and no longer dismissed him. Chivonne relayed how another student who knew he had HFA would seek feedback in order to understand the impact he was having on others and would adjust his behaviours as required. As with adults with HFA (Hickey et al., 2018), receiving a diagnosis and information about HFA for children may also lead to improved understanding of self and access to help in areas that are harder for them.

Leah, too, found peers benefited from learning about the needs of classmates with HFA and developed greater compassion. She actively worked with the entire class on treating one another with kindness and respect. She notes that another crucial component was having students with HFA learn about themselves through a specialized withdrawal program that taught them about their diagnosis, how to self-advocate, and various social skills. Over time, she noted students with HFA developed skills and the confidence to apply them and began to join groups at recess or sign up for sports. By working on it from both ends, Leah saw other students move from humouring students with HFA to engaging and becoming friends.
While some research also indicates that diagnosis sharing can increase support of peers (Ochs et al., 2001, as cited in Able et al., 2015), research must also investigate the long-term impact of diagnosis sharing of these children. As of yet, there is no perfect formula for increasing peer understanding and true inclusion of children with HFA at school. The inclusive classroom can still exclude children and teens with HFA, who have reported significant loneliness and less satisfying friendships than neurotypical peers (Bauminger & Kasari, 2000; Locke et al., 2010). Social problems of students with HFA tend to worsen into the teen years, when they are more actively excluded from social structures in inclusive settings (Locke et al., 2010). This suggests more research is needed into attitudes of peers toward students with HFA and the impact of possible classroom interventions (Able et al., 2015; Bauminger & Kasari, 2000; Locke et al., 2010; Mavropoulou & Sideridis, 2014) at various developmental stages. As teachers may approach inclusion lessons in a myriad of ways, it would be worthwhile to study the effect of indirect activities such as read-alouds about characters with HFA, general autism awareness presentations to the school, specific diagnosis sharing with the class, and teacher-led friendship facilitation. Researchers should also consider developing and assessing interventions that jointly address self, peer, and teacher understanding of students with HFA.

**The Impact of HFA Awareness on Other Staff**

All 5 teachers agreed that training on HFA would be advantageous for school staff and would help them to better understand students with HFA. In most cases, participants perceived their staff as supportive of children with HFA. Some schools employed a collaborative effort to support students with HFA. The teacher with the longest career was able to speak to a culture shift and greater acceptance of autism over the last 10 years.
Three teachers mentioned that, in smaller schools they had worked in, staff actively collaborated to support students. Tanya’s school has an autism class and the autism teacher provides information at staff meetings on the needs of her students, so they could watch out and support. In a previous school, Chivonne’s colleagues implemented a recess buddy system to encourage relationships for a student with HFA. Her current staff also worked together, sending out emails about what students with HFA were working on, such as making eye contact, and then staff could monitor and encourage that skill in their interactions with the students. Leah’s old school also communicated regularly about the needs of students with HFA, so teachers could be on the look out and support them. A fourth teacher, Jill, felt staff in a small school recognized different needs but did not mention a whole-school support system.

Some teachers also discussed what they felt other colleagues understood about HFA. Overall, teachers felt there was a need for teacher education to support instructional strategies and understanding of the diagnosis, which aligns with research (Able et al., 2015). Tanya felt some teachers had more experience and understood HFA better than her, but many teachers did not understand or would not be able to identify a student with HFA, reflecting perception of HFA as an invisible disability (Tsatsanis, Foley, & Donehower, 2004, as cited by McCrimmon et al., 2012; Stichter et al., 2010). Leah found many teachers at her current school interpreted children with HFA as “annoying” (personal communication, January 22, 2018) and were unaware of the social issues students with HFA faced. She cited an example of how another teacher responded when a student without autism was bothering a student with HFA. The neurotypical student was constantly pestering him with math questions – and there could be many reasons why. Like, maybe he just really likes math, ... maybe he’s trying to show off, or maybe
he was trying to bug this boy. But then the boy with autism was like, ‘I don’t want to talk about math at recess!’ or ‘I don’t know the answer to this!’ and like, so we [me and an educational assistant] had to teach this boy, like, these are the steps you do if somebody’s bothering you outside ... But then when I tried to talk to the teacher about this other boy – the one who didn’t have autism – she just, like, yelled at him, like, ‘Don’t talk to this kid at all!’ And I’m like, ‘Well, no, I don’t want them to-to not talk ‘cause they could be friends – I don’t want to, like, take away a friend from this autistic boy! – but, um, like, we have to teach!’” (personal communication, January 22, 2018)

Her student with HFA was then very anxious about getting the other boy into trouble and it required more intervention.

Like Tanya, Leah felt many teachers could not recognize a child with HFA and needed to be told. She was sympathetic because the other teachers in her school have not received any training on HFA and felt it would be beneficial, since many teachers used strategies that might work on neurotypical students, such as yelling or threatening punishment, but which can escalate a child with HFA and damage the relationship:

I found it really helpful to learn about strategies and so I think that other teachers just haven’t been given that opportunity and a lot of times they either have never had a student with autism or they just haven’t had a PD about it so they don’t know at all what they need to do. So, certain tones or certain methods are not helpful and actually throw off the kid more... (personal communication, January 22, 2018)

This was in line with research that shows teachers can easily damage relationships with children with ASD if they do not understand their social and emotional understanding (Emam & Farrell,
2009) and are more likely to use ineffective strategies without an understanding of HFA (Stokes et al., 2017).

Evelyn also struggled with the labels other staff often used to describe students with HFA, such as “odd” or “unusual” (personal communication, November 18, 2017). She wanted them to see children with HFA as “just children who are trying to function in the world” (personal communication, November 18, 2017), instead of passing on negative perceptions of students from teacher to teacher. Similar to Leah’s observations, she found that other teachers sometimes would yell at students with HFA, upsetting them greatly, instead of speaking to them privately to ascertain their feelings and perspectives. Evelyn stated that other staff were her the greatest challenge in supporting learners with HFA:

From people who thought they shouldn’t belong in the room, uh, to people who didn’t want to take them when they had library and gym because they didn’t know how to manage them, to people who berated me for, um, hugging or being kind or letting a child who was in an assembly who couldn’t cope with the noise sit close to me or sit on me or me helping to-to cover their ears or take them out of the situation because it was necessary for their best interest not to be there... it’s sometimes really hard to love the kids, not because of the kids – because of the people around you don’t want you to love those children and accept them as just... and enjoy them! (personal communication, November 18, 2017)

Often, her staff would emphasize how good she was at handling them and the sentiment, which Evelyn tried to abate, was that Evelyn should have them all the time. This calls to mind a study by Busby et al. (2012) which found that general education teacher felt ill-equipped to support learners with autism and that teachers with an autism background should exclusively teach
children with autism. Other research has indicated that training at both the pre-service and in-service levels can improve attitude of teachers towards teaching learners with special needs (Avramidis & Norwich, 2002; Busby et al., 2012; Killoran et al., 2014). It is significant to note that Evelyn did notice a change in teaching culture in the last decade, with teachers seeking more information to learn how to support students with HFA and defending children with HFA from bullying.

**Finding 2: The Classroom Reality: Systemic Barriers Impacting Teachers’ Ability to Support All Students**

All participants were deeply concerned about equitably meeting needs and supporting the children in their classrooms. Most felt they had not been prepared to teach learners with a variety of needs by pre-service or school board professional development. As Done and Murphy (2018) attest, neoliberal attitudes often position teachers as solely responsible for student success, and they are expected to produce successful outcomes with dwindling resources. Teachers in this study used terms such as “juggling”, “overwhelming”, “inundated”, “difficult to balance”, and “impossible” when speaking about meeting diverse needs. Participants worried about the well-being of all of their students, as exemplified by Evelyn’s plea that:

so many of us carry it home at night, don’t sleep at night, worry about a child, have to call CAS [Children’s Aid Society]. Like, there’s so many issues sometimes going on that are not addressed and are not talked about ... I mean, I worked in a school where kids were hungry! (personal communication, November 18, 2017)

Jill, Tanya, Leah, and Chivonne all mentioned the greater demands to their time that was required to support learners with HFA, from planning visuals and differentiated instruction to personalized attention in class. Chivonne spoke about how:
you end up focusing a lot of your attention on that student and trying to make sure all of their needs are being met, but then are you making sure that the rest of the class’s needs are being met? Um, so instead of like … a twentieth division because I have 20 kids, like, it’s like … that one student might get, like, two-twentieths or like, three-twentieths.

(personal communication, November 19, 2017)

While the relevant literature shows that a lack of support contributes to less positive teacher views of inclusion (Avramidis & Norwich, 2002; McGhie-Richmond et al., 2013). participants in the current study identified many positive aspects of integration of students with HFA in the classroom in addition to expressing concern about a lack of proactive supports and resources, which they felt impacted their ability to teach diverse learners to the best of their ability. In research, this has been interpreted as having mixed feelings about inclusion. McGhie and colleagues (2013) surveyed teachers and determined that they expressed both positive and negative views of inclusion, with negative statements reflecting a concern with balancing needs of all students and inadequate supports. It can be argued that a belief in the importance of inclusion is not diametrically opposed to a belief that resources are lacking; and that both reflect the complex realities of classroom teaching and can be held at the same time. Workplace conditions have a profound impact on teachers and how effectively they manage (Gu & Day, 2013). In an ideal world, teachers would have what they need to support all learners to the best of their ability. Tanya articulated the heart of the matter in saying:

So, yeah, I think from the top down recognizing that if you want the teachers to be able to support these kids as best as they can, you have to build, um, that time and those resources into the workday to let them do their job. (personal communication, February 3, 2018)
In 2018, the Ontario Human Rights Commission (OHRC) released a new policy document on accessible education for students with disabilities. Joining other organizations in calling for reforms (Learning Disabilities Association of Ontario [LDAO], 2016; OAC, 2018), recognized ongoing systemic barriers in the education system, including inadequate training for education providers on disability-related issues, insufficient resources and supports in classrooms, and long waitlists for assessments. In their individual interviews, participants in this study described analogous systemic barriers which they perceived to be impacting them and students in the classroom. These are outlined below. (Needs specific to teacher professional development will be summarized under Finding 3.)

**Lack of Preparation**

All of the teachers in the study mentioned that their pre-service education programs did not provide any information about learners with HFA. Four stated that they were unprepared to support learners with exceptional needs in general. Poor teacher preparation to meet the diverse needs of students is, unfortunately, all too common (Able et al., 2015; Barnhill et al., 2011; Busby et al., 2012; Lambe, 2007, Rosenweig, 2009 as cited in Busby et al., 2012). Chivonne hoped that, with the move to the 2-year teaching programs, this would be addressed for future teachers. However, the recent survey of first-year teachers in Ontario found they, too, felt unprepared to support learners with exceptionalities (OCT, 2017). This is unfortunate, given the impact pre-service exposure to training around special needs students can have on increasing positive attitudes (Avramidis & Norwich, 2002; Killoran, Woronko, & Zaretsky, 2014); motivation to teach students with autism (Busby et al., 2012); and comfort levels and knowledge of autism and teaching strategies (Leblanc et al., 2009).
The reality of the many responsibilities of teachers and the vast needs in the classroom can be a shock for beginning teachers (Beck & Kosnik, 2014). Teachers are insulated within the school organization (Lortie, 1975) and so it is unsurprising that 4 teachers in the study described experiencing a sense of isolation as a teacher and how, at times, they feared getting in trouble for doing something wrong. Two teachers also shared their fears of reprisal if they informed parents of steps they could take to advocate for their children’s education. Jill worried about the response from administration if she was transparent with families about the inadequate supports in the private school system, saying, “I couldn’t voice it, um, freely because I would get in trouble probably” (personal communication, January 20, 2018). Chivonne also expressed that she wanted to encourage parents to push for what their child needed, but said, “I don’t really think we’re supposed to be telling the parents, like, ‘You need to bug the superintendent!’ So, that’s hard” (personal communication, November 19, 2017).

Evelyn recalled how, as a beginning teacher, she wished someone could have provided some guidance on how to meet needs in the classroom “as opposed to me doing it but feeling, like, ‘Am I going to get in trouble for doing this?’” (personal communication, November 18, 2017). Tanya continues to worry at times “that I’m not doing what I’m supposed to be doing” (personal communication, February 3, 2018) when it comes to accommodating her exceptional students. Chivonne also indicated that a communication gap affects new teachers, who are unaware upon entering the profession of what resources are available, how to access them, whether there are ways to find funding, and are often apprehensive about asking:

That kind of stuff, you’re not really sure because you are so new and you don’t want to, like, stir the pot, kind of thing ... I was kindergarten and we kind of – I didn’t realize that, like, we were supposed to have a communication book for him that went home every
night and that I had to fill out, like, SC17s and, like, the special education reports, kind of thing. And ... I just wasn’t aware when I first came in that these were all the steps that you have to do ... all that stuff I felt like was, like, a little bit of a shock, of all the things you have to do and that nobody, like, kind of warned you about it ... I find teaching, as much as we are a group of teachers at a school, you are very individual in your class. It is your classroom. Like, it’s not – the whole, like, team teaching thing is really hard to do ‘cause you are by yourself teaching most of the time. Um, so I found, like, that a bit challenging ‘cause you don’t know. And, again, if you’re by yourself without an EA [educational assistant] and ... you’re not expecting certain behaviours or you’ve never dealt with certain behaviours, you don’t know what to do and it’s like, who do you call? Am I allowed to call? Am I supposed to be able to handle this on my own? Am I not? (personal communication, November 19, 2017)

Like Chivonne, Leah also spoke to a system-wide communication problem impacting teachers. In her school board, there is an autism resource support teacher but, in her experience at multiple schools, she has noticed that most teachers are unaware of this service. This teacher is not introduced to school staff, except “through word-of-mouth”, leaving teachers frustrated with what to do on their own to support learners with autism.

These testimonials demonstrate the stress of having to figure out how to teach in an inclusive classroom without preparation (Brackenreed, 2011). Recent studies of general education teachers supporting learners with autism reported teachers lacked confidence in their decisions when these were based on their intuition and experiences rather than based on training or expert knowledge (Anglim et al., 2018; Soto-Chodiman, Pooley, Cohen, and Taylor, 2012). Participants reported that, when left to their own devices, they often ended up using a trial-and-
error approach with children with HFA, which corresponds with other teacher studies (Anglim et al., 2018; Soto-Chodiman et al., 2012). All participants in the study advocated for better training and clearer guidance on the specifics of managing a classroom and meeting needs of exceptional learners.

**Availability of Assessments or Reviews**

A pressing issue in Ontario schools is the large number of students requiring special education supports in Ontario who have not been formally identified (LDAO, 2016; OAC, 2018; OHRC, 2018; People for Education, 2018). Research confirms that children with autism are frequently starting school without a diagnosis and experience delays in accessing assessments (Anglim et al., 2018). This theme also emerged from interviews with 4 participants, who had found themselves in positions of needing to support students who they suspected of having HFA without a confirmed diagnosis. They were also aware of other students in their school who were not yet identified. While Busby et al. (2012) maintain that educators need adequate training in identifying autism in young children, teachers in this study reported trying to use their professional judgement to advocate for assessments or reviews of supports with limited success. Jill and Tanya talked about children suspected of having HFA in their kindergarten classrooms, who were considered too young to be assessed, despite the fact that children with autism can be reliably diagnosed by 24 months of age (Smith & Samdup, 2018). Tanya would persist when a child needed an assessment, often in disagreement with administration who thought it best to wait to see if the behaviours were a developmental phase, “But nothing’s ever done with it until they get to the older grades” (personal communication, February 3, 2018). Anglim et al. (2018) point out that this leaves teachers in a precarious position: on the one hand, they are often the first professionals to raise red flags to parents and do not have training in how to support families
through the process; and they are often at a loss in the classroom as they cannot access specific resources or programs without a formal identification within the school board.

Compounding the problem is the issue of assessment waitlists and a school-imposed limit to the number of students being referred for assessments each year (People for Education, 2018). Chivonne shared how some students suspected of having HFA in kindergarten and Grade 1 have been on a waiting list for a psychoeducation assessment for over a year and how this limits the support that can be given on a school level and as a teacher. She explained how frustrating it is when “everything’s a waiting game and you gotta go through this channel and this channel” (personal communication, November 19, 2017). She found another barrier to receiving a diagnosis was the backlog of cases a school team needed to see. Her student, who had characteristics of HFA was generally managing in the Grade 1 at the moment, despite some emotional volatility and tensions with peers and staff often considered him too high-functioning. She worried that “putting him forth to team, how much of that would – they would accept him?” (personal communication, November 19, 2017). Chivonne’s observation also calls to question whether children with HFA and other invisible disabilities are disproportionately denied access to school board assessments when compared to other students requiring these services. It is worth noting that, because not all school board psychologists are comfortable diagnosing autism, those on school board waitlists might need to wait even longer for a second referral to a clinical setting where they could be assessed by a developmental pediatrician or psychologist with autism expertise.

Evelyn expressed reservations about labels because “labelling can work for you and have wonderful things that it gives you – assistance; but it also can work against us because if we have a picture of what that label means – if somebody thinks autism just means this and that’s all they
see, then that’s all they’re going to see” (personal communication, December 2, 2017). However, she also understood the importance of qualifying students for desperately needed educational assistance. She once taught a student with autism and a developmental delay who would put his fingers in the electrical sockets or place bags over his head. It was apparent to Evelyn and her principal that he needed one-on-one support. Although he had an identification and had been formally placed within the board, getting help took a great deal of time, requiring an appeal to the school board and proof over time that the safety concerns were too much for one person to handle. For children without a diagnosis but whose behaviours present a safety concern, it is even more challenging to access personnel support (Anglim et al., 2018). Evelyn elaborated on the difficulties of navigating the system through a story about another student, new to the country, in her Grade 1 class. He had been diagnosed with HFA in India and parents informed the school immediately, hoping for an IPRC meeting so the child could be identified within the school board and have access to available programs and services. Evelyn recounted how

the system just dropped the ball completely. It was horrendous ... They were shifted from, like, meeting to meeting to meeting, always on the bottom, because these parents weren’t vocal, they didn’t get angry ... So, then this child goes on to Grade 2. Seems to be okay until about mid-Grade 2 and then problems really escalate. Because people have a lack of understanding about what’s really happening here. And problems like, um, him squeezing boobs of teachers, biting – all these issues where I was just, I was horrified. I was like, ‘What? That’s not him at all!’ ... And so, it was really interesting to watch what happens when a system doesn’t service the parents – it doesn’t ever have them in to talk to them except when the child becomes a problem ... They-they were way down [in priority] because they didn’t speak English really well. They were very polite when they put off
the meetings ... um, and-and other kids were serviced instead because, of course, the squeaky wheel ... eventually he did get servicing and he was, um, identified and put into a smaller class ... I really I felt the system – the people above me – let him down completely. And this whole special ed[ucation] system was full of paperwork. I’d done all the right paperwork but nobody – nobody did anything with it. I kept asking, but nobody did anything. I felt powerless – powerless as the teacher. (personal communication, November 18, 2017)

Evelyn’s words encapsulate a system that is reactive rather than proactive in how it addresses student needs. Ultimately, all participants felt their professional judgement as teachers was of little value and that there is a disconnect between the decision makers and classroom realities.

**Accessibility of Interventions**

In Ontario, school boards determine the range of programs or placements available to students, which include options such as indirect support, resource assistance, withdrawal to a special education room for part of the day, or placement in a special education class on a full-time or part-time basis (Ontario Ministry of Education, 2008). The educational landscape is shaped by neoliberal policies which position education as more of a commodity than a human right (Goodley, 2011, cited in Runswick-Cole, 2014). Educational policies tout a parent’s right to choose schools as well as available programs and services, though as Evelyn’s story about a family navigating the school system for supports indicates, choices of program are not always presented to families; there is no school budget for programs; or those programs are not easily accessible (LDAO, 2016; OAC, 2018; OHRC, 2018). Research suggests this approach replicates social inequality, since not all families can relocate, afford to pay for a private school, or have the time to become familiar with what is available and often not communicated (Done &
Murphy, 2016; LDAO, 2016; OAC, 2018). The illusion of choice implies theoretically equal access, rather than achieving true social justice. School boards allocate funds at their discretion (Davidson-Harden & Majhanovich, 2004), resulting in differing services and programs from board to board. In this study, Chivonne noted that she knew teachers in other boards whose students accessed an early reading intervention that was not an option in her school board.

Three participants in this study expressed dismay at long wait lists and requirements for admission to access certain programs that were necessary for higher needs students. Evelyn and Chivonne had experienced the long wait for placement in special education programs for their students. Chivonne explained how it felt as a teacher:

what do you do in the meantime? You want to meet their needs ... you want to kind of get them before they progress too much. But there’s only so much you can do, and you can spend the whole class trying to deal with their needs and then all other kids get neglected.

(personal communication, November 19, 2017)

Chivonne and Leah felt it was unequitable that programs were available for some but not for all. Chivonne articulated that students have to be, like, bad enough or, like, they have to be low enough, kind of thing ... I do find that troubling ...I feel like a lot of the times it’s like, ‘Do we have the resources for students?... do they fit into the category properly?’ ... Which I think is a big challenge ‘cause ... like, we say, like, we’re supposed to be differentiating all the time because every student’s individual, but we don’t have enough programming to meet all of the different many needs of our students ...

(personal communication, November 19, 2017)

Leah, while grateful for a program for some of her students with HFA, shared similar sentiments. She has also taught students with autism who did not qualify for a specialized program:
who’ve been too low, like, academically, to be in the program, I feel for them ...
sometimes our students are in the middle, so they’re either too low or too high or they’re, like, they don’t check off the right boxes, so then they just don’t get help ... there’s no budget for programs, ‘cause, like – not just HFA, but all students – ... sometimes they need an extra class about social skills or they need someone to come in and teach them why showering’s important. You know? Like, there’s so many things that we need support with ... (personal communication, January 22, 2018)

As with students in need of identifications, it fell to teachers to bridge the gap in services. Interestingly, in the private school system that Jill worked for, there were no programs or withdrawal supports, although a special education teacher would provide some support in the classroom throughout the week. Jill was looking forward to the move to the public school board because, although she believed it was important for students to be integrated, “I also do see a benefit to, um, you know, different classes or different subjects – like, kids going to one teacher for one subject and based on where they are, if it’s possible” (personal communication, January 20, 2018). Leah identified the crux of the issue:

When we were younger, like, there was nothing ... you didn’t know kids were different or you didn’t really realize and now, we really promote this culture of ‘Everybody is different’. So, now that everyone is different, well, we need to support everybody that’s different, so we need these, um, programs and we need things set up to help support these students. So, we’re aware, yeah, but now what? (personal communication, January 22, 2018)

As Leah observes, the relatively recent shift in thinking around individualized learning is not yet mirrored in the education system. All teachers in this study articulated this tension between
wanting to help and support individual learners and the lack of available services, programs, and resources to do so.

**Provision of Resources**

Schools boards utilize their special education budgets at their discretion, a policy criticized by the OAC (2018) for a lack of accountability and for funds which do not translate into resources for children who need it. Access to technology can be a problem in Ontario schools due to inadequate funding. Recently, People for Education (2018) called on the provincial government to deem technology a foundational learning support and to fund it, as most schools in Ontario fundraise at a local level to be able to afford technology for students, which widens the gap in resources between affluent and high-poverty schools. A positive finding of this study is that all participants had at least partial access to technology to enhance learning. All five teachers in the study enjoyed integrating technology into their lessons to enhance interest and learning. Jill had regular access to a SMART board, iPads, and computers through her private school and felt these were important tools for her students. Teachers in public boards were not as fortunate. Three identified greater access to technology for students as a need in their classrooms. As Tanya wryly observed, “We’ve got – when I can book it! – technology” (personal communication, February 3, 2018). At her school, the projector and computers were shared amongst staff so she did not report reliable access. Chivonne was indignant about having a handful of iPads for her class which she could not use due to restrictions placed on what could be downloaded. These did not have any suitable applications for her young learners. She found it ridiculous that no one consulted teachers on what they needed or provided any information about what she could use the devices for in her classroom. She also had a temperamental SMART Board in need of repair. Leah wished all her learners with HFA had access to computers to
improve their productivity and make homework completion easier, particularly those with fine motor difficulties. Like Tanya, she used a projector during lessons whenever it was available, eventually purchasing her own so that she could use it as often as she liked. She also purchased a standing camera she uses in conjunction with her personal laptop and projector in order to display a live video broadcast of materials she is reviewing for the class, such as worksheets, reading passages, or homework. This is another reflection of neoliberalism in schools, with teachers expected to deliver standardized, prescribed, and corporatized programming (Sattler, 2012), and are simultaneously asked to support students as individuals, which requires different resources and tools to appeal to diverse learners.

By far the most burning need reported by teachers, in this study and in others (McGhie-Richmond et al., 2013), was access to and availability of personnel support like educational assistants. Jill was the only teacher without any access to a school-based educational assistant, though she did receive resource support 3 times a week during reading groups. Tanya, Chivonne, and Leah had partial educational assistance at various times, though Leah expressed how she had been in other schools with no educational assistants at all. Evelyn had benefit of a full-time educational assistant to support a student with autism in her class in her second-last year of teaching and exclaims this was the “only time it ever happened in my [31-year] career!” (personal communication, September 2, 2018). She remembers one other year, in the 1990s, when she had an educational assistant who helped out for an hour a day. Tanya recalled that support fluctuated from year to year, and this amount was determined from the top down, right? Like, they determine the percentage of support that each school gets and it’s like, come into the classes and see that it’s ... 10 kids in every class
technically could use support. How do you expect one teacher to deal with that? (personal communication, February 3, 2018)

The overwhelming sentiment was that every class could benefit from an educational assistant and that more educational assistants should be hired and placed in schools. One of the challenges of integrating diverse students is added workload and time required for teachers to support students with special needs on their own (Anglim et al., 2018; Naylor, 2002, as cited by Leblanc, Richardson, & Burns, 2009; Soto-Chodiman et al., 2012). Teachers in this study who had taught in combined classes mentioned how much it would help to have someone assist one grade to follow routines and instructions while the teacher was teaching. Leah felt children with HFA especially needed someone who could devote extra time to one-on-one debriefing before or after recess or other unstructured times. Jill pointed out that very young children all require more support, and even more so when you factor in learning needs, and that an educational assistant might have improved learning outcomes: “I always felt like maybe I could have done more; they could have been better supported had there been more physical, like, adult support in the room” (personal communication, January 20, 2018).

Teachers also verbalized challenges associated with educational assistance, such as a lack of regular, consistent support. At Tanya’s school, administration created a timetable for when educational assistants would be available to classes. Two educational assistants supported Tanya’s class at their allotted times. Tanya found these educational assistants were often pulled to support in other classes, resulting in inconsistent support, or they were scheduled during Health rather than a subject like Math or English where her students needed considerable support. Chivonne shared how, when educational assistants are away, frequently no one fills in those positions for the day. She also noted the difficulties of having partial educational assistant
coverage for high-needs students, such as a young boy with autism who had accidents, often when the educational assistant was out of the room to assist elsewhere:

I’d call down to the SERT [special education resource teacher] and say, ‘Um, someone needs to come and help me with, uh, my student,’ and they’d be like, ‘Oh well, your EA [educational assistant] comes back in an hour’. And I was like, ‘You want him to sit here for an hour, like this?’ ‘Oh, but we can’t do anything about it.’ And I found that really, like, disheartening. And like, I can’t believe you want him to, like, sit here like this. I was like, not only do all the other kids know, but this cannot be comfortable for him, and this is just not, like – we wouldn’t let a baby do this … So, often I would do it … because he was an easier student, they-they would pull the EA from him a lot of the time and he only had – I think it was like .8, um, coverage or .7 … he ate lunch, he had recess on his own … and again the end of the day … that was hard because sometimes he did need someone …

(personal communication, November 19, 2017)

The literature suggests schools are under-servicing children with HFA (Safran, 2008; Shepherd & Waddell, 2015), which was congruous with Chivonne’s observation that students with HFA often received less support than lower-functioning students with autism and that they were also the first students to have their support pulled if an educational assistant needed to be reassigned. Another allotment issue meant that a student with autism at her school with self-injurious and escape behaviours had no educational assistant for parts of the day, which resulted in the parent being called to remove the child from school due to inadequate supervision or supports. This is a common occurrence in Ontario schools (People for Education, 2018) and in other education systems (Anglim et al., 2018).
Support staff are not always trained (OAC, 2018), which can also add to teachers’ existing workload (Soto-Chodiman et al., 2012). Four participants felt support staff also required training to support students with special needs. Leah felt mentorship or workshops on HFA and working one-on-one with students would be of help. Chivonne, who related how she worked as an educational assistant with no training and had to figure out what to do through trial and error, agreed. Tanya expressed how sometimes, educational assistants in her classroom would not understand what was being taught due to their inconsistent presence and would say,

‘Okay, what do you want me to do?’ and I’m like, ‘I haven’t had a chance to think about it because I’ve had to, like, get all my other stuff together ... then on top of that, figure out what I want you doing with this specific kid?’ Sometimes I’ll just say, ‘Take them out into the pod and just help them if they need help.’ (personal communication, February 3, 2018)

Evelyn was the only teacher who did not express wanting more educational assistant support. She was grateful to have it during safety issues and spoke highly of the knowledge level of the educational assistant assigned to her classroom. Still, she dreaded the thought of other adults, even those with the best intentions, interfering with her vision for teaching. Children helping and learning from one another, with room to make mistakes on their own, was the lynchpin of Evelyn’s classroom. There, “we are all teachers, a team ... [It was] simply easier to implement that philosophy on my own” (personal communication, September 2, 2018). She also did not think educational assistants needed to be singled out for training, considering them “professionals in their own right” (personal communication, September 2, 2018).
Finding 3: Ideal Professional Development to Support Teacher Learning

The teachers in this study had collectively experienced a range of professional development opportunities, from additional qualification courses, workshops, conferences, professional learning communities, consultants, and learning at a staff meeting or over a lunch hour. Only 1 participant had attended an in-service with information specific to supporting learners with HFA. Some participants criticized previous professional learning for relying heavily on theory; being presented in a lecture style; lacking application to their classroom context; being on a topic imposed by the school board rather than personal choice; not incorporating teacher priorities; not presenting new ideas or knowledge; not providing an opportunity to follow up at a later date on what was learned and how it worked in the classroom; and failing to recognize existent teacher expertise and knowledge.

Participants shared their insights about what topics they felt teachers should learn related to HFA; factors influencing their participation in professional development; what characteristics of professional development resonated with them; and the types of professional development they wanted to pursue. Overall, participants shared a strong desire for learning which was useful, collaborative, and credible. While participants were open to both formal and informal learning options, there was a strong preference for professional development which fostered positive colleague relationships. What participants valued in professional development was consistent with elements identified within the relevant literature.

Professional Learning on HFA

Although there is a significant body of research to show teachers need more training to meet the needs of students with autism in the general classroom setting (Able et al., 2015; Anglim et al., 2018; Busby et al., 2012; Corkum et al., 2014; Soto-Chodiman et al., 2012), there
is a dearth of research on the actual professional development needs of teachers educating students with autism (Brock, Huber, Carter, Juarez, & Warren, 2014). To explore this, participants in this study were asked what they felt they or other teachers needed to know about HFA and also relayed this information anecdotally over the course of their interview (see Table 2). All the participants in the study agreed that professional development for teachers should cover an overview of characteristics, general strategies teachers could use, and how to respond to behaviours. Four teachers mentioned a need to know how to respond to their various needs across domains, while the teacher with the least experience with HFA exclusively identified academic needs as an area for teachers to better understand. Teachers who had taught more than one identified student with HFA also saw a need for teachers to understand how to better integrate with peers. The more identified students a teacher had taught, the more information related to HFA they felt other teachers needed to understand. These results suggest the value of experiential learning in informing teachers’ understanding about HFA. Future research could also investigate the impact of professional development initiatives on teacher understanding.

This study as well as others show that teachers without specific PD in autism tended to use trial and error to determine what worked best for students with autism (Anglim et al., 2018; Soto-Chodiman et al., 2012). While children with HFA can have highly individualized needs, they also have certain needs in common with others with HFA. Given that teacher self-efficacy can be a protective factor against burnout (Ruble et al., 2011) and that there are numerous evidence-based practices to support learners with autism (Ruble, Dalrymple & McGrew, 2010), it may reduce stress and build the confidence of teachers if some of the guesswork is removed and better prepare teachers to support learners with HFA from the outset (Able et al., 2015; Siu & Ho, 2010)
### Table 2

**Participants’ Perception of Teacher Professional Development Needs Related to HFA**

<table>
<thead>
<tr>
<th>Students Taught with HFA</th>
<th>Chivonne</th>
<th>Leah</th>
<th>Tanya</th>
<th>Jill</th>
<th>Evelyn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5-6</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

- overview of HFA strategies
- responding to behaviour
- how to address needs
- how to help to integrate communicaton needs
- how they think and why
- helping students to focus
- overview of HFA strategies
- responding to behaviour
- how to address needs
- how to help to integrate
- how to support at recess
- how they think and why
- the “hidden curriculum” academic needs
- visual supports
- routines
- resources
- overview of HFA strategies
- responding to behaviour
- how to address academic needs
- how they think and why
- overview of HFA strategies
- responding to behaviour
- how to address needs
- how to help to integrate
- how much support to give
- transition supports

**Notes.** The "hidden curriculum" (Myles & Simpson, 2001) is discussed on pages 36, 47, and 103 in this dissertation.

**Factors Influencing Participation in Professional Development Opportunities**

Teachers in this study identified a number of external factors that influenced whether or not they participated in professional development (see Table 3). Four common and interwoven factors emerged, mirroring the research literature: administration support (Able et al., 2015;
Beck & Kosnik, 2014; Gu & Day, 2013; McGhie-Richmond et al., 2013); funding (Kutsyuruba et al., 2015); coverage (Hunzicker, 2011; Kutsyuruba et al., 2015); and job-embedded learning (Able et al., 2015; Busby et al., 2012; Hunzicker, 2011; Kutsyuruba et al., 2015; Zepeda, 2012).

For participants, support of administration included attitude of administration toward professional development as well as directions from the school board on professional development. Administrative support can set the tone for workplace culture (Avalos, 2011; Gu & Day, 2013) as with Leah’s principal, who ensured she was able to meet with colleagues to collaborate, and Jill’s principal, who encouraged her to take an additional qualification course and offered a partial subsidy. School boards can also influence whether or not teachers participate in professional development by what they prioritize and make available to teachers. Teachers in the study wanted more choice in the professional development that was offered by the school boards. Research shows educators dislike when professional development is mandated from the top down (Beck & Kosnik, 2014; McLaughlin, 2011; Vernon-Dotson et al., 2011; Zepeda, 2012), not only because of a lack of choice but because of fads in teaching methods (Beck & Kosnik, 2014) that are promoted temporarily before a new method is touted. These themes emerged with multiple teachers, including Tanya:

I find a lot of the PD we do now through the Board is not very worthwhile. Seems they are just interested in pushing new initiatives onto teachers every year and they never really go anywhere ... It would be great if the board listened or surveyed the actual teachers in the classrooms to get their opinions on what PD they would like. (personal communication, August 26, 2018)

The costs attached to professional development and the provision of coverage were also significant concerns for participants. Not all opportunities are funded, so teachers may either pay
out of pocket for the cost or not receive a code for an occasional teacher to cover their class, resulting in a dilemma for Leah:

if I wanted to go learn about something, like, if there’s a conference or something somewhere else, I don’t have a code day for this ... like a supply that can come in, or I have to, like, take my own time off ... Without getting paid. (personal communication, January 22, 2018)

Hand in hand with cost and coverage, teachers also wanted learning opportunities to be job-embedded rather than scheduled on personal time. Chivonne reflected that

If it’s on the weekends or... after school, I think I’d be less likely to do it and if it was, like, supported by the school board and, like, we were given ... release time ... I definitely would be more likely to do it ... (personal communication, November 19, 2017)

Two teachers, Chivonne and Leah, also indicated that the location of the professional development might be a deciding factor, such as distance from school, availability of parking, or accessibility by transit. In addition, Leah felt time of year was an important consideration, as information might be more useful and relevant earlier on in the year and might enable teachers the opportunity to try out what had been learned and engage in ongoing follow-up throughout the year, a valuable aspect of teacher professional development (Groundwater-Smith et al., 2013; Hunzicker, 2011; Zepeda, 2012).
# Table 3

**Participants’ Professional Development Needs and Preferences**

<table>
<thead>
<tr>
<th>Factors Influencing Participation</th>
<th>Chivonne</th>
<th>Leah</th>
<th>Tanya</th>
<th>Jill</th>
<th>Evelyn</th>
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</thead>
<tbody>
<tr>
<td>Admin Support</td>
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<tr>
<td>Cost</td>
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<tr>
<td>Coverage</td>
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<td>Location</td>
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<tr>
<td>Time</td>
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<td></td>
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<tr>
<td>Time of Year</td>
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</tbody>
</table>

**Preferred Characteristics**

- **Useful**
  - Choice
  - Modelling
  - New Information
  - Practical
  - Relevant to needs
  - Resources

- **Collaborative**
  - Dialogic
  - Follow-Up

- **Credible**
  - Based on Teacher Experience
  - Research based

<table>
<thead>
<tr>
<th>Preferred Formats</th>
<th>1-Day PD</th>
<th>Classroom Visit</th>
<th>Collaborative Planning Time</th>
<th>In-Classroom Coaching</th>
<th>Ongoing Mentor</th>
<th>Multiple Sessions of PD</th>
<th>School-based PD</th>
<th>Talking to Colleagues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chivonne</td>
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</tr>
<tr>
<td>Leah</td>
<td>1-Day PD</td>
<td>Classroom Visit</td>
<td>Collaborative Planning Time</td>
<td>In-Classroom Coaching</td>
<td>Ongoing Mentor</td>
<td>Multiple Sessions of PD</td>
<td>School-based PD</td>
<td>Talking to Colleagues</td>
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<tr>
<td>Tanya</td>
<td>1-Day PD</td>
<td>Classroom Visit</td>
<td>Collaborative Planning Time</td>
<td>In-Classroom Coaching</td>
<td>Ongoing Mentor</td>
<td>Multiple Sessions of PD</td>
<td>School-based PD</td>
<td>Talking to Colleagues</td>
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<tr>
<td>Jill</td>
<td>1-Day PD</td>
<td>Classroom Visit</td>
<td>Collaborative Planning Time</td>
<td>In-Classroom Coaching</td>
<td>Ongoing Mentor</td>
<td>Multiple Sessions of PD</td>
<td>School-based PD</td>
<td>Talking to Colleagues</td>
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<tr>
<td>Evelyn</td>
<td>1-Day PD</td>
<td>Classroom Visit</td>
<td>Collaborative Planning Time</td>
<td>In-Classroom Coaching</td>
<td>Ongoing Mentor</td>
<td>Multiple Sessions of PD</td>
<td>School-based PD</td>
<td>Talking to Colleagues</td>
</tr>
</tbody>
</table>

- **Bolded bullets** = all participants

- **Italicized bullets** = a majority of participants

**Preferred Characteristics**

Participants were asked how they liked to learn by identifying characteristics of professional development that resonated with them (see Table 3). These fell into three main categories, showing a strong affinity for learning which is (1) useful; (2) collaborative; and (3) credible.
Usefulness. Teachers want learning which is useful to them and their needs in the classroom (Able et al., 2015; Beck & Kosnik, 2014; Bill & Melinda Gates Foundation, 2015; Cook, Cook, & Landrum, 2013; Hunzicker, 2011; Zepeda, 2012). All participants in the study believed that professional development was of most value to teachers when it is relevant to their classroom and its existing challenges. Jill, in her role as a resource teacher, felt targeted professional development could increase the self-efficacy of teachers. She observed that other teachers were finding it really frustrating and difficult to meet the needs of kids with IEPs, um, especially those who had behavioural, uh, problems and meet the needs of the rest of the class. Like, it-I think it was very overwhelming for them. So, to also have PD focusing on how to, um, navigate meeting everyone’s needs and not just, say, like, giving up, you know? (personal communication, January 20, 2018)

Because teachers may have different priorities, Brock et al. (2014) recommends that boards ask teachers what it is they want to learn and achieve.

Teachers want information presented to them in engaging and interesting ways (Bill & Melinda Gates Foundation, 2015; Cook, Cook, & Landrum, 2013; Lieberman, 1995; Zepeda, 2012). What was most apparent from the teachers in this study is the value of being able to visualize information being taught, either through videos of real teachers with real students modelling interactions and strategies; first-hand visits to another classroom; or a mentor coming into their classroom to coach and model. Chivonne thought it would be invaluable to go into a classroom and with a teacher that maybe has a lot of experience and kind of see what they do ... um ... with a student with autism, um, and their strategies I feel like would be more beneficial ‘cause it’s real life and it’s practical and it’s happening, and
you could actually just, like, kind of witness it and then you could ask questions that you might have. (personal communication, November 19, 2017)

In workshop formats, Leah felt interactive elements and videos were essential for teachers, calling for:

\[\text{just more hands-on things because ... we need to be taught these strategies and shown how they work, like, a video that really explains, like, what autism is and then, like, how you can help them. That’s really what we need. (personal communication, January 22, 2018)}\]

Regardless of format, teachers benefit from seeing how something works and may, in fact, be an indispensable element. Hannay (2011) asserts that professional knowledge and practices only change if teachers view different perspectives and pedagogical practices as beneficial and see how these could be incorporated into their existing teaching context. It follows that, if professional development aims to build the capacity of teachers (Darling-Hammond, 2004), it must show them what to do.

On a related note, all participants wanted professional development to be practical and easy to apply. What was being imparted to teachers needed to make sense and needed to help them to manage better in the classroom (Cook et al., 2013). Recollecting on her professional development needs when she was a beginning teacher, Tanya said,

\[\text{you’re completely inundated anyways. What are just some basic strategies that I could try using if I’m finding, you know, things aren’t working ... things that I can draw on easily without having to get too much into PD or whatever ‘cause you don’t have a lot of time ... (personal communication, February 3, 2018)}\]

Teachers need reliable methods to draw on to meet the needs of learners in their classroom (Able
et al., 2015; Anglim et al., 2018; Bill & Melinda Gates Foundation, 2015; Cook et al., 2013; Hunzicker, 2011; Soto-Chodiman et al., 2012; Zepeda, 2012).

Participants in the study also identified other important characteristics for what makes professional development useful to them. Most participants described how they wanted learning experiences to be on a subject of their choice, as previously discussed; to be new information rather than a refresher of what teachers already know and do; to reduce rather than add to their workload; and to provide materials and resources they could take back to their students. Essentially, teachers need learning which can be easily implemented and translated into practice (Hannay, 2011; Loucks-Horsley et al., 2010) and which supports what they do in the classroom.

Collaborative. Teachers want to learn together with other educators (Beck & Kosnik, 2014; Bill & Melinda Gates Foundation, 2015; Brock et al., 2014; Hunzicker, 2011; McGhie-Richmond et al., 2013). Participants in this study were unanimous that their voices should be included in learning. They placed particular value on conversations and collaboration at the school level, yet still saw a place for conversations in formal professional development. Participants appreciated when time was devoted to what teachers wanted to learn and so that they could learn from one another. Evelyn suggested presenters ask about teacher learning goals and facilitate discussions, while Leah felt “a question period and then ... a strategy period” (personal communication, January 22, 2018) could be built in at the end.

Most participants also sought opportunities to meet with colleagues over time to discuss the application of learning (Beck & Kosnik, 2014; McGhie-Richmond et al., 2013). Some envisioned this as part of formal, scheduled, ongoing professional development sessions while others saw this as happening through naturally occurring, everyday conversations with colleagues. Leah described how her practice evolved because she had the opportunity to discuss,
go back to the classroom, and

try it out and then see if it works and then adjust ... if the other special education teacher is like, ‘... this reward system is really great for him and he really enjoyed that,’ so I’m like, ‘Oh, great idea!’ So then, working in collaboration with other teachers I think has been the best way – the most positive, um, factor in learning and helping and supporting ...

... (personal communication, January 22, 2018)

The end goal was the same: being able to test out what they learned and reconvene if something was not effective. This preference was also reflected in the formats of professional development in which participants wanted to participate.

Credible. Teachers care about the source and dissemination of information (Beck & Kosnik, 2014; Bill & Melinda Gates Foundation, 2015; Cochran-Smith & Lytle, 2009; Cook, Cook, & Landrum, 2013). Four participants also highlighted that they valued particular sources of knowledge over others, while the fifth teacher stated she found all professional development valuable. These participants valued information imparted by another teacher with experience in the matter as opposed to an expert consultant without a teaching background or an inexperienced teacher. Chivonne expressed knowledge was more meaningful when it comes “from a place of ... like ... a teacher that’s actually been using it for years, not just a ... like, academic side or, like, a theory side” (personal communication, November 19, 2017). Teachers in this study, and in general, view other educators as “legitimate knowers and knowledge generators, not just implementers of others’ knowledge” (Cochran-Smith & Lytle, 2009, p. 89).

Cook et al. (2013) state that special education researchers tend to disseminate findings in ways that are not meaningful or useful to teachers; and that they must remediate this if they wish to have greater impact on practice. Because of the disconnect between theory and practice, it is
telling that the only 2 participants who expressed an interest in research-based learning were pursuing graduate studies at the time of this research project.

**Formats**

Participants were open to many different formats of professional development (see Table 3). There was consensus on 1-day PD, such as workshops or in-services; collaborative planning; in-classroom coaching with a specialized teacher, particularly at beginning of career; and conversations to colleagues. Most also mentioned they would relish opportunities for mentorship with another teacher; visits to another classroom; and learning altogether as a staff in school-wide professional development. Two teachers emphasized multi-sessional, sit-down PD.

Participants overwhelmingly expressed a preference for interactive, collaborative learning, whether through sit-down workshops that allowed teachers to discuss and problem-solve challenges, school-based collaboration through professional learning communities or collaborative planning; conversations with colleagues; access to a teacher-mentor or coaching in their classroom; or visiting classrooms of other teachers with the chance to ask questions about their practice. Research shows teachers value trusting relationships with other colleagues (Able et al., 2015; Beck & Kosnik, 2014; Busby et al., 2012; Zepeda, 2012). Gu and Day (2013) posit that support from colleagues and administration is a source of ongoing motivation and increases teacher resilience in the face of the many challenges of teaching.

Another reason why collaborative learning formats were cherished by teachers is that these enable teachers to discuss issues and strategies, test them out in their classrooms, and re-establish the discussion on an ongoing basis (Groundwater-Smith et al., 2013; Hunzicker, 2011; Zepeda, 2012), characteristics of professional development which teachers in this study held in high esteem. Though teachers held different views of what this could look like, what matters is
that teachers can learn and do at the same time, as Jill maintained. Jill envisioned her ideal professional development as a course of workshops delivered over several months:

and giving teachers the opportunity between each one to implement, um, what they’ve learned so that they can – not, like – teachers hate it when you give them more work to do on top of the work they already have but if it’s actually, um, beneficial and will help their teaching and will help the flow of their classroom, they they’re going to do it and they can implement something and bring it back and then say, “Okay, this is what I experienced. This worked, this didn’t,” and build from there ... (personal communication, January 20, 2018)

Teachers all appreciated scheduled planning time (McGhie-Richmond et al., 2013) and the chance to work with colleagues to create student support plans and revise these throughout the year. Leah credited her and her students’ success to this: “if I didn’t have this opportunity to work with the withdrawal program teacher or work with ... my special ed[ucation] teacher, I wouldn’t have been able to support these students to the ability that I’ve been able to” (personal communication, January 22, 2018). Dialoguing with colleagues also promoted sharing and strategizing, building trust and rapport, as noted by Evelyn:

I think we should be educated for that and time should be given for that, so people can sit down and say, you know, ‘These are the things I’m struggling with in gym. That may be very different from what you’re struggling with in Language ... how do I deal with these?’ and people who give suggestions and ideas. (personal communication, November 18, 2017)

Some teachers also wanted relationships with a teacher acting as a mentor they could seek out for advice or who could coach in the classroom. Both one-on-one coaching and mentorship
are evidence-based practices which can improve teaching and learning for students with ASD (Howlin, Gordon, Pasco, Wade, & Charman, 2007; Odom et al., 2013, as cited in Brock et al., 2014; Ruble et al., 2010). Participants made it clear that their visions of mentorship align with Rosenfield’s definition (1987): a “collaborative relationship is a non-hierarchal relationship between two or more professionals working together to resolve a problem” (cited in Gifford, 2012, p. 85). This would involve an ongoing conversation and could be targeted toward the individual teacher’s needs (Beck & Kosnik, 2014). Two participants, Evelyn and Leah, also brought up how too much information in workshops can be overwhelming and it is possible that a mentor or coach could mitigate this by addressing teachers from where they are, one issue at a time. Collaborative relationships have the power to be change-oriented, building on existing practices to improve future practices (Groundwater-Smith et al., 2013; Hudson, 2013; Beck & Kosnik, 2014; Heikkinen, Jong, & Vanderlinde, 2016).

Participants raised some limitations of mentorship or coaching. Jill mentioned how the person would have to be available in a timely manner. They would need to be someone who could easily establish rapport and trust (Allen & Poteet, 1999), such as someone Jill could feel comfortable going to “confide in” (personal communication, January 20, 2018). Leah considered her relationship with an autism resource teacher to be a form of collaborative mentorship and describe their positive approach: “they’ve never said no or, like, they’ve never, like, given us attitude about not knowing something” (personal communication, January 22, 2018). A coach could help a teacher like Tanya to find the reassurance she wants around what she already does well in the classroom. Evelyn felt mentors must have a delicate touch in order to reach teachers in a unique way and to build their self-efficacy:
if teachers feel that they’re being thought of as deficits, as they don’t know enough and they’re not good enough to do this, I think, um, some teachers get their back up and-and can’t, um, and can’t cope with being given extra information because they’re already feeling incompetent. So, I think you have to be really careful to make those teachers feel they’re doing enough already and they’re doing good enough – but here’s some other ideas that are possibilities. (personal communication, November 18, 2017)

A teacher in this role would have to have the instinct for acknowledging a teacher’s expertise and what they are already doing successfully (Beck & Kosnik, 2014; Hudson, 2013).

The keen interest in collaborative professional development models speaks to a deep-seated desire on part of teachers to have their knowledge recognized (Bill & Melinda Gates Foundation, 2015; Cochran-Smith et al., 2009; Gu & Day, 2013) and built upon (Zepeda, 2012). It is disheartening that Evelyn, a caring educator with over three decades of experience, described experiencing professional development that made her feel

like I was there to get information from the 'experts' and I had no intuitive knowledge with anything experience or creative ideas to offer. We were Paulo Freire type 'empty vessels'. The mandate to 'educate ' us about autism. It would have been helpful to have asked us what challenges we had, to talk about different characteristics of autism, to recognize the experience and knowledge that was at the table ... ‘What is working with the students in your room? How can we make it better?’ (personal communication, August 21, 2018)

It is clear that many teachers dislike professional development which positions them as passive recipients of knowledge (Bill & Melinda Gates Foundation, 2015; Darling-Hammond, 2004;
Lieberman, 1995). Instead, this study suggests that what teachers want out of professional development is what they want for themselves: to be seen as useful, collaborative, and credible.

**Chapter Summary**

This chapter presented conclusions from the cross-case analysis of five individual case studies. Three themes emerged, relating to teachers’ self-efficacy and professional development needs around teaching children with HFA. Firstly, teachers shared how experiences with students with HFA positively influenced teachers and students; secondly, how systemic barriers impact teachers’ ability to meet the needs of all students; and thirdly, their ideal vision for professional development that promotes teacher learning. In Chapter 6, findings of the study are laid out and compared with the preliminary research questions. Implications and recommendations for future research directions and potential practice in similar contexts are discussed. Finally, I reflect on the changes to my own understanding and practices as a teacher consultant in education as a result of the research process.
Chapter 6: Conclusion

The purpose of this study was to explore the perceptions and experiences of general education teachers related to supporting learners with HFA in elementary classrooms and teacher professional development. Drawing on my work as an autism consultant and special education teacher as well as my reading of the literature, I knew that many teachers felt unprepared and unsupported themselves to meet the needs of children with HFA. The research literature was clear that these students are often misunderstood and under-serviced by the school system, though limited research had investigated teacher professional development needs on HFA. No studies had been conducted, to my knowledge, which specifically asked teachers about their experiences, what they wanted to know, and what they envisioned as their ideal professional development.

Chapters 4 and 5 illuminated themes which emerged from data analysis, and guided by the following research questions:

1. What do general educators already know about supporting students with HFA?
2. What do general educators want to know to improve their understanding of students with HFA?
3. What relevant professional development opportunities have general educators who support students with HFA had, if any? What do they consider to be a meaningful professional development experience?
4. What do general education teachers envision as ideal professional development models and classroom supports?

Based on the data presented in this dissertation, it is clear that teachers want to support all students in their classrooms but face significant systemic barriers. Overall, they lack the
background knowledge that would help them to teach learners with HFA more effectively, and consequently cope by drawing on colleagues and learning from experience and intuition, with greater self-efficacy correlated with more teaching experiences with students with HFA. Despite these challenges, teachers are positive about the benefits of inclusive classrooms, but feel unsupported by educational policy makers. In terms of their professional learning needs, they value forms of professional development which are useful, collaborative, and credible. Teachers need opportunities to learn about topics that are relevant to their classroom concerns and in ways that engage them and recognize their expertise.

This summative chapter reviews the main findings of the study and their implications for future professional development initiatives in the area of HFA for educators, potential avenues for ongoing research, and possible practices for school boards, schools, teachers, and consultants. Finally, I examine the impact of this research on my own work as an autism consultant and teacher mentor.

**A Summary of the Main Findings**

**Teachers and Students Were Positively Impacted by Knowing Students with HFA**

As the findings establish, participants were positively impacted by teaching students with HFA. Participants spoke to the positive influence of experiences with students with HFA in their classrooms, including what they learned about HFA, the various ways they as teachers coped with the demands of supporting these children using a trial-and-error approach, and the impact of children with HFA and greater autism knowledge on peers and other teachers. This positive influence was reflected in greater teacher confidence, knowledge, and changed practices.

Participants in this study who reported higher confidence levels had taught a greater number of students with HFA. Although initially most were unsure how to support these
learners, they gained knowledge through working with the student directly, using their instincts, and asking for help from colleagues and parents, with their knowledge of HFA developing in tandem with their confidence. As a result of working with students with HFA, teachers felt less apprehensive about teaching future students with HFA.

In response to the learners with HFA in their class, teachers adapted their practices in several ways. Firstly, all teachers, regardless of confidence level, developed strategies to support their learner(s) with HFA and often found these could be utilized to increase the success of others in the classroom. Most teachers also worked more collaboratively with other staff to support these students. Those with more experiences with students with HFA used their planning time differently, incorporating accommodations from the outset of the learning. They also were more reflective about the social needs of students with HFA, with those with the greatest sum total of experiences with HFA also developing social support strategies to use in the classroom, demonstrating a greater awareness and ability to meet the needs of these students. In addition to these changes to practice, some participants also believed that teaching a student with HFA had helped them on a personal level to develop qualities such as patience, kindness, and empathy.

Inclusion not only benefited teacher participants in this study, but they also witnessed a positive impact on other students, who learned about their peers through repeated experiences and interactions, even without an awareness of their peer’s diagnosis. Most schools also cultivated a culture which taught autism awareness understanding each year, which may have also impacted students’ understanding of peers with characteristics of HFA. Some teachers observed a significant change in students when they were made aware of theirs or a peer’s diagnosis of HFA. Children with HFA who were aware of their diagnosis came to use more effective strategies to help them in areas that were harder for them as a result of greater
understanding of HFA. They also grew in confidence when they learned about positive role models with HFA. In classrooms where a special education teacher shared information related to another student’s HFA with the class, peers became more understanding and accepting of the student and the student was included more often.

Participants also felt that familiarity with HFA could benefit other teachers. Smaller schools tended to develop whole-school approaches to support these students, so that teachers had more familiarity with individual students with HFA and their specific needs. This was more difficult in larger schools, resulting in staff who were not always aware of the diagnosis and needs of students with HFA and who then did not always use effective communication or strategies in their interactions with them. Participants believed that professional development could help teachers to better understand HFA and appropriate instructional strategies to support these learners. One participant, in her lengthy teaching career, also shared that greater autism awareness in society had translated into school environments that were generally more responsive to these students and staff who were more interested in learning about how to support them.

**Systemic Barriers Affecting the Classroom and Teacher Self-Efficacy**

The findings of this study illustrated that participants were deeply concerned about meeting the range of needs in their classrooms and the disconnect between the classroom reality and those who make policy decisions for schools. They felt unprepared prior to entering the teaching profession to support diverse learners, and although they coped by developing a repertoire of strategies, they expressed significant worry about their students, how their needs were being met, and the time and resources required to support them to the best of their abilities as teachers.
Lack of preparation. None of the participants had learned about HFA in their pre-service teacher education programs, and most had not learned about diverse needs at all. As beginning teachers, this trend continued, with all teachers feeling isolated and some afraid of response of administration if they made a mistake or expressed their concerns to families. A lack of school board transparency resulted in teachers who were not aware how to navigate the system and access existing resources or supports. To support learners with HFA, they relied on trial and error, and all felt their experiences could have been less stressful with adequate training.

Availability of assessments or reviews. Most participants had supported learners with characteristics of HFA without a confirmed diagnosis and were aware of other students in the school who also required an assessment. Despite advocating for assessments and supports, some teachers felt their professional judgement had little weight and they watched as children were passed along until behaviours worsened. Students with suspected HFA were not always put on the school list of students to bring up for assessments because their needs were seen as being milder; those who were deemed needing support faced long wait lists for psychoeducational assessments at the school level and might need a subsequent referral to a clinical practitioner if the school board psychologist were not as familiar with HFA and unwilling to make a diagnosis.

Accessibility of interventions. Participants found it frustrating that programs to help their students were not always available, either because of differing services across school boards, limited selection criteria, or long wait lists. Teachers felt the tension of having to bridge the gap between services while also supporting the other learners in their room.

Provision of resources. Teachers wished their classes had access to more resources and personnel support. While all teachers had at least partial access to technology to help them to differentiate instruction and engage learners, teachers reported challenges such as equipment in
need of repair; no control over applications; limited quantity; and negotiating use of technology shared across the school. One teacher purchased her own classroom technology. Teachers were most concerned about the availability and quality of support staff. Access to educational assistants was limited, with school allotments determined at the board level and then educational assistant schedules decided on at the school level, resulting in piecemeal delivery of supports in classrooms. Most participants also mentioned that educational assistance was pulled when it was needed elsewhere or when supply staff were not provided when another educational assistant was away. One teacher felt support was most often pulled from students with HFA. Some teachers also felt support staff needed help understanding how to support students with special needs, including HFA.

**Ideal Professional Development**

Findings from this study revealed participants’ ideal professional development models, including what topics should be included related to HFA; factors which influence their decision and/or ability to participate in professional development; characteristics of effective professional development; and formats of professional development that appealed to them.

**Professional learning on HFA.** Participants were largely consistent in what they would like in professional development to support their and other teachers’ learning around supporting children with HFA in the general classroom. They all felt professional learning on HFA should include an overview of HFA, effective strategies, and how to manage challenging behaviours. Most also felt it would be helpful to identify responses to various needs, and how to integrate children with HFA into the inclusive classroom. The teacher with only one experience teaching a child with HFA focused on academic needs, perhaps because without more experiences of students with HFA or training, she did not have the knowledge of less obvious areas requiring
support. Those with greater experience and confidence levels had more insights into what other
teachers should learn in an in-service on HFA.

**Factors influencing PD participation.** Participants identified administration support,
funding, coverage, and job-embedded learning as four overlapping factors which influenced their
participation in professional development. Principals could foster a PD-friendly attitude by
encouraging teachers to participate and helping to remove barriers. School boards also
influenced participation by what opportunities they offered to teachers or for which they
provided coverage and funding. It was important to all participants that professional
development happen as part of the regular school day, and not outside of teaching hours.

**Preferred characteristics.** Teachers had all experienced a range of professional learning
opportunities and so were able to discuss characteristics of professional development which was
valuable to them, and which fell into three categories.

**Usefulness.** All participants found it crucial to learn information that could help in their
current classroom setting and the challenges they were facing, which many felt was more likely
to happen if teachers were asked what professional development they wanted to attend. They
wanted to be able to see how to apply the learning, either through videos or opportunities to see
strategies in real life. They also wanted the focus of the learning to be practical and easy to
implement once back in their classrooms. Most participants also emphasized the information
needed to present new ideas; reduce their workload; and come with resources and materials that
could be used in their classrooms.

**Collaborative.** All participants wanted to be able to discuss their concerns and problem-
solve with other teachers in their ideal professional development, and most also wanted to
continue these conversations after they had tried out new ideas in their classrooms.
Credible. Four teachers especially prized learning from other teachers who had experience in the area of learning, while 2 of these, who are both graduate students, also specified wanting research-based information. One participant said she valued all learning experiences.

Formats. Interactive, collaborative learning was a preference expressed by all participants, regardless of whether in formal or informal professional learning, and included 1-day PD, shared planning time, in-classroom coaching, and conversations with colleagues. Most participants also mentioned mentorship, visiting other classrooms, and school-wide PD. In PD involving another teacher acting as an expert, participants wanted an equal relationship and ongoing dialogue about their needs; timely assistance; and someone with whom they had a rapport and trust. Most participants wanted to build on what they already knew and be recognized for their expertise as teachers.

Implications and Recommendations

The purpose of this dissertation was to investigate the insights of teachers about their experiences and understanding of how best to support students with HFA and their related professional development needs. While teachers do increase in their understanding and become more confident from successive experiences with children with HFA, they develop and test strategies through trial and error instead of entering the classroom already equipped with evidence-based practices. Their knowledge of HFA is mostly based on experiential learning, which is largely dependent on the perspective of the teacher. Based on the findings, it is evident that teachers require better preparation and support throughout their career and that collaborative professional development targeting their classroom needs and availability of resources may have an impact on their self-efficacy. This relates not only to learners with HFA, but to all students
who think and experience the world in unique ways. While findings cannot be broadly
generalized due to the exploratory nature of this small-sample study, it is telling that the concerns
of five teachers from five different school boards aligned with one another. Their insights point
to some considerations for the structure of pre-service and ongoing teacher learning, as well as
policies and practices at all levels of education governance. Based on the participations in this
study and existing research, the following recommendations can be made:

Implications for the Ontario College of Teachers and Teacher Preparation Programs

- Upon reviewing the courses offered at Ontario education faculties, most universities in
  the 2-year model offer a mandatory course that addresses inclusive education. The course
descriptions reflect that there is no standard curricula across teacher education faculties.
While it is positive that inclusive topics are included in program courses, the downside is
that these courses are limited in duration and cover a wide range of content, and must
therefore broadly address inclusivity; some of these courses also address the policies,
procedures, and legal requirements that school boards must follow in relation to
exceptional learners; supporting literacy; mental health; and general diversity needs.
These courses are unable to achieve a level of depth necessary to glean an understanding
of specific needs of various exceptionalities or to challenge preconceptions or to reduce
anxieties of teacher candidates around meeting the needs of exceptional students. Pre-
service education programs could serve teachers better by including one mandatory
special education and adaptive instruction class, at minimum, which has a focus on
specific exceptionalities; as well as a separate course on educational policies and special
education law to ensure teachers understand how to develop and implement
individualized education programs.
- Pre-service education programs should consider the inclusion of at least one mandatory classroom placement in a special education setting to familiarize teacher candidates with diverse learning needs.
- Pre-service education programs could enhance the experience of teacher candidates by incorporating videos and modelling of effective strategies so that teacher candidates can see how they can be used within a classroom.
- Pre-service education programs could be redesigned to embed teaching of participation in professional learning communities with peers and to prioritize ongoing opportunities for teacher candidates to reflect on and problematize issues from their practicums with fellow teacher candidates.

**Implications for Ongoing Professional Learning**

Ongoing professional learning is essential for teachers. Though these opportunities are most often mandated or offered by the Ministry of Education or school boards, the findings from this study indicate that teachers are more likely to take advantage of and enjoy learning from certain types of professional development.

**The Ministry of Education.**

- The Ministry of Education may wish to consider expanding NTIP to include training on HFA and other exceptionalities for beginning teachers, with an emphasis on learning evidence-based strategies.
- Curriculum documents should include multiple examples for each learning strand of ways for teachers to differentiate lessons and assessments to meet the diverse learning needs of students.
Currently experienced teachers must create an online annual learning plan with personal learning goals; to be more meaningful, The Ministry of Education could revamp this as a funded school-based professional learning community that meets throughout the year in order to discuss goals and share new practices.

The Ministry of Education should review the special education funding formula and how special education funds are allotted across school boards.

**School boards.**

School boards could seek input from each school on what staff identify as their school’s main learning priorities. This may help to inform the development of learning activities that are relevant to each particular school community rather than a one-size-fits-all approach to PD.

School boards should consider making more funding available for job-embedded collaborative learning such as shared team planning time and professional learning communities and school sites should be provided with resources and support they need to facilitate collaborative learning over time.

Professional development opportunities must build in time to address teachers’ classroom concerns and model strategies so that teachers can move from acquisition to application of knowledge.

School boards could invite teachers to submit proposals for professional development workshops for other educators, drawing on the expertise of those who support students on the ground level.
School boards might consider offering secondments to teachers with expertise in special education in order to spend time connecting with schools and being available to coach and mentor general educators.

School boards may wish to develop and collect data on an ongoing professional development model wherein experienced teachers have the opportunity to select an area of learning every few years (e.g. literacy interventions for elementary students; differentiated instruction at the junior level); subsequently visit teachers’ classrooms who have expertise in the area; and take part in related professional learning communities comprised of teachers with similar learning interests to discuss and share best practices.

School boards should review available school-level services, programs, and resources and related policies to see how these are being accessed and utilized and whether improvements can be made.

**Providers of Professional Development.**

Regardless of the structure of the PD, providers will wish to develop content which is useful to teachers, which is designed to be relevant to teacher needs; is practical; and provides modelling of new ideas or strategies.

Providers of PD must also emphasize that there is no one correct way to meet the needs of all students, but rather that teaching and learning measures must be tailored to the individual. Neoliberalism often positions standardization as the ultimate goal, but teaching remains a profession which hinges on creativity and relationship-building to best nurture the growth of each individual in a classroom.
▪ Providers of PD may consider providing teachers with ready-to-use resources, to the best of their ability.

▪ Providers of PD should aim to incorporate dialogue with teachers as a substantial component of the PD session, in order to address the immediate concerns of teachers and to build on their existing knowledge and practices.

▪ Providers of PD may have more impact by presenting information from a teacher perspective; essentially, knowing their audience and delivering information in a practical way.

▪ Subsequent follow-up may be beneficial to teachers and will allow them to discuss implementation of strategies and reflect on their experiences.

**School-Level Implications**

This study illuminated the importance of school communities to teachers. It calls on administrators to foster a culture of collaboration and ongoing learning, and on teachers to form positive relationships with other staff. While some schools may enact such practices as discussed below, school cultures vary widely, as evidenced by participants in this study and my own school-based experiences. Below are some recommendations for school staff.

**Administrators.**

▪ Principals may wish to invite teachers to present on an area of expertise at staff meetings or on PD days.

▪ Principals could encourage teachers to meet as divisions to plan curriculum delivery and assessments and provide time and coverage, if needed.
Principals could, to the best of their ability, schedule special education and support staff services at meaningful times for classroom teachers and aim for consistent delivery of these supports.

Principals might check in with each teacher on staff at some point during each term to ask him or her how things are going and if there is anything he or she needs help with, in order to connect teachers with appropriate resources or people to help them, if necessary. This may help new teachers learn how to navigate the system and glean an understanding of what supports are accessible to them and may allow experienced teachers the opportunity to seek help and begin dialogues, if needed and wanted.

Time during staff meetings could be allotted to discussing the needs of students with HFA or other disabilities who may need more support at unstructured times.

Principals may want to invite staff and students to suggest ideas to build school community and inclusion and subsequently implement and review whichever suggestions are possible.

**Teachers.**

Teachers might be mindful to create community at the school level in their interactions with other long-term, itinerant, and occasional staff.

Teachers could pass on useful notes to subsequent teachers about students with exceptional needs. While these can be realistic about what the child’s needs are, they should also emphasize what the child can do, how to build rapport with the student, and what strategies were found to be helpful with him or her. This may help to reduce some of the trial and error for the next year’s teacher.
Despite pressure to prepare all students to achieve on standardized measures, teachers must keep sight of the uniqueness of every child and holistic learning objectives. They may wish to make other teachers aware of students who may need support at recess, lunch, or other times throughout the day and highlight how they can build a positive relationship (e.g. share the student is interested in Roblox so teachers can initiate conversations on this topic) and ways they can support these children in passing interactions.

**Future Avenues of Educational Research**

This dissertation highlighted the supports and professional development needs that would be helpful to general educators who were supporting learners with HFA. It presented invaluable teacher insights which contribute to an under-researched area. As a preliminary study, it also indicates other possible avenues for future research, which might consider:

- Extending this research by involving more participants and then using that information to design and implement a PD program, with follow-up data collection to measure impact of specific training over time.

- Researching how professional development impacts changes of practice by conducting observation of teachers in the classroom before and after professional development on HFA.

- Examining the impact on students with HFA of teacher knowledge and understanding of their diagnosis.

- Exploring the effectiveness of training school staff in identifying characteristics of HFA at recess and potential staff-facilitated recess supports.
- Exploring the effectiveness of peer mentorship programs to support inclusion of children with HFA.
- Researching the potential benefits and challenges associated with diagnosis sharing in elementary schools.
- Investigating personal factors which may impact a teacher’s ability to change practices, such as resilience and beliefs about teaching.
- Investigating personal factors which may contribute to teacher readiness to seek support from colleagues, such as self-efficacy and fear of judgment.

**Implications for the Researcher**

The process of researching and writing this dissertation was a period of considerable growth for me, personally and professionally. In examining my subjectivity, I came to see the influence of neoliberalism on my life in a number of ways. Firstly, I scratched the troubling itch that has long been present when considering that, in teaching a program designed to help children with HFA to fit in with their peers, I might not be preparing them entirely for their own sake. To assuage my discomfort with this thought, I discovered I used the neoliberal construct of choice: perhaps, I rationalized, my intention is not assimilation with the crowd, but rather, arming them with knowledge and skills they may choose to use for greater social success, should they wish. Yet, while many of the individualized program goals for my students are suggested by parents or teachers, it remains my priority as teacher to weight more heavily the concerns expressed by the child and what factors they view as most important to their quality of life. As I have learned, time and again, from my brother Danny, the metrics by which we assess quality of life should be set by the individual rather than by the outsider. Secondly, my decision to pursue my doctorate in education was borne out of a concern for what I would do, should my school
board cut funding for my specialized program, as historically within my own and other school boards, it has been special education which has been slashed in times of budget crisis (Rushowy & Ferguson, 2015). From a neoliberal standpoint, a program like mine which services a small number of students might be considered fiscally unproductive; similarly, in servicing an exclusive demographic, it is not an option accessible to all; and most poignantly, because of the zeitgeist of neoliberalism, which conceptualizes those with special needs as less valuable to the knowledge economy of the classroom and eventual global marketplace. It is a devastating thought, in stark contrast to my intrinsic belief that we, as teachers, must meet all children where they are and support them on their own unique trajectory.

This study was borne out of my work as a teacher of students with HFA and as an autism consultant supporting their general classroom teachers. Previously, I considered the most important work to be what I do in the classroom with my students. I have come to realize that my consulting role is equally essential to supporting learners with HFA. The insights of the teachers in this study helped me to realize how essential it is to connect with other teachers, to build a strong rapport, and to recognize and learn from what they are already doing well.

This dissertation will also impact how I deliver my workshops on HFA. At the conclusion of my first draft, I was simultaneously preparing a teacher in-service on HFA. While there were time constraints that reduce the amount of collaborative time I would have liked to incorporate into this professional development, I designed with teacher needs in mind and asked myself throughout the process, “Is it useful, collaborative, and credible?” Feedback received from attendees was overwhelmingly positive. Recently, I also asked to join an autism professional development planning committee within my school board to design and implement PD for administrators and teachers. I plan to draw on my newfound understanding of teacher
learning needs as I collaborate with a multidisciplinary team. Similarly, I present a half-day workshop on HFA several times each year at the graduate level. Since beginning my dissertation, this workshop has become more interactive, hands-on, and has made time for questions and answers and teachers and candidates to problem-solve situations and present what strategies they would use.

Finally, this dissertation has left me with a deep respect for the difficult but important work of teachers and the realization that we all want to support students to their full potential. In the current educational climate, there are challenges that exacerbate the tension of inclusion amidst a lack of appropriate resources. While teachers are not solely responsible for the success of students, there is no denying the importance of our role. Regardless of the trends in educational policy, teachers as individuals will continue to nurture, support, and engage students in individualized and creative ways. Yet, as with our students, sometimes we as teachers also need help along the way. The research process has strengthened my interest in helping teachers to better understand learners with HFA and to, hopefully, support them in moving from apprehension to an appreciation for the gifts these students can bring to a classroom. I am in the unique position of being able to learn from general educators what works in each of their classrooms and can add their best practices to my own toolbox. My hope is that, as I support more teachers, we can collectively develop tools to better meet the needs of children with HFA — those in their current classroom and those they have yet to teach. It truly takes a village.
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Appendix A: Participant Information & Consent Letter

October 2017

Dear __________:

I am a PhD Candidate in the Department of Curriculum, Teaching and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I also teach students with High-Functioning Autism (HFA) in the Program to Assist Social Thinking. I am conducting a research study on teacher professional development needs and experiences relating to HFA in the classroom. This research will be supervised by Dr. Karyn Cooper and has met the institutional ethical standards at the University of Toronto. I hope you will consider collaborating on this project.

Rationale
The purpose of this study is to glean a deeper understanding of teacher needs, knowledge, and experiences related to supporting students with HFA – from the perspective of teachers. Currently there is limited research into the professional development needs of teachers who support learners with HFA in the general education classroom. There are no qualitative studies inviting teacher expertise or insights into their own learning needs and experiences. This research study seeks to fill this gap.

Involvement
Participation in this research would involve the following:
   - An in-person interview, to be completed by April (up to 5 participants)

Should you be selected for an interview, we will determine a date, place, and time that is convenient for you (e.g. after school or on a weekend). Interviews will be approximately 40 minutes in length and will be digitally recorded and transcribed.

Participant Rights
Participation in this research project is voluntary. You may withdraw or refrain from answering a question at any time. There will be no negative consequence for withdrawing from the study. As we are collaborators in this research, I will never evaluate you, your ideas, or your teaching. Your personal information will remain confidential. You, your school, and school board will not be identified by name in any presentation or publication that results from this study. All data will be safely stored and destroyed within three years of collection, unless further written consent/approval is obtained from participants. The University of Toronto Research Ethics Program may have confidential access to information to help ensure participant protection procedures are followed. The only other people to have confidential access to raw data are me and my supervisor, Dr. Karyn Cooper.

Interview participants will have an opportunity to review their individual case studies and provide feedback. A summary of findings and an electronic link to my thesis dissertation will be shared with all participants after study completion.

If you agree to participate in this study, please sign the attached consent form.

Thank you very much for your consideration,

Kara Dymond, Principal Investigator
Ontario Institute for Studies in Education University of Toronto
kara.dymond@utoronto.ca / kara.dymond@tcdsb.org
416-393-5344

If you have any questions about the project, you may also contact Dr. Karyn Cooper at 416-978-0256. Should you have any questions about your rights as a participant, you may also contact The Ethics Review Office of the University of Toronto at ethics.review@utoronto.ca or by calling 416-946-3273.
CONSENT FORM FOR TEACHER RESEARCH PARTICIPANTS

Title of Research: Teacher Insights: Self-Efficacy & Professional Development Needs Related to Supporting Children with High-Functioning Autism

Name of Researcher: Kara Dymond

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

I have read the attached letter and agree to participate in this research study as described in the attached letter. I agree to take part in the web questionnaires and, if selected, to be interviewed and digitally recorded. I understand the purpose and nature of the study and am participating voluntarily. I understand I am under no obligation to participate and am free to withdraw from the study at any time without negative consequence. I understand that collected data will be confidential and my name, school board, and school name will not be used in any publications or presentations. 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.

I understand that if I have questions or concerns about my rights as a participant I may contact the researcher, the research supervisor or the Ethics Review Office at the University of Toronto.

I acknowledge that I have read and fully understand the consent form.

☐ I agree to participate in this research.

Name (please print): ________________________ School: ________________________

Signature: _____________________________ Date: ______________________________

Contact Information
Kara Dymond, Principal Investigator
Ontario Institute for Studies in Education University of Toronto
kara.dymond@utoronto.ca / kara.dymond@tcdsb.org
416-393-5344

If you have any questions about the project, you may also contact Dr. Karyn Cooper at 416-978-0256. Should you have any questions about your rights as a participant, you may also contact The Ethics Review Office of the University of Toronto at ethics.review@utoronto.ca or by calling 416-946-3273.
Appendix B: Interview Guide for Case Study Participants

Understanding of High-Functioning Autism
1. In your own words, what is High-Functioning Autism?
2. How has your understanding of High-Functioning Autism evolved over time?
3. Can you share with me any experiences you have had on a personal level that contribute to your understanding of High-Functioning Autism?
4. Can you describe any teaching experiences that have contributed to your understanding of High-Functioning Autism?
5. How knowledgeable about the specific needs of these students do you feel on a scale of 1-10? Can you describe why you answered this way?
6. How confident do you feel in your ability to support these students (1-10)? Can you describe why you answered this way?

Current Year
1. Can you talk about your feelings about meeting diverse learning needs in the classroom?
2. This year, did you encounter any challenges in supporting a learner with High-Functioning Autism?
3. This year, did you encounter any positive outcomes in supporting a learner with High-Functioning Autism?
4. What implications has teaching a student with High-Functioning Autism had for you, your teaching, and other students?
5. What questions do you still have about students with High-Functioning Autism?

Professional Development Needs
1. What are your thoughts on professional development initiatives for teachers?
2. What information would have been helpful in your first year teaching a student with High-Functioning Autism?
3. What models of professional development would make you feel better supported in understanding and meeting the needs of students with High-Functioning Autism?
4. Is there anything else you would like to share about your experiences with students with High-Functioning Autism or about teacher development needs?
Appendix C: Read Aloud Books for Educators

I use a variety of books in my classroom to teach students of different age groups about autism and general inclusion, picking the books most suited to the specific needs of the students. Some are books for students with autism about their own diagnosis, while others are more suited to their peers. Below is a brief list of potential read aloud books:

**UNDERSTANDING DIAGNOSIS**
- *All My Stripes* – Shaina Rudolph
- *How to Build a Hug: Temple Grandin & Her Amazing Squeeze Machine* – Amy Guglielmo & Jacqueline Tourville
- *The Girl Who Thought in Pictures: The Story of Dr. Temple Grandin* – Julia Finley Mosca
- *Different Like Me: My Book of Autism Heroes* – Jennifer Elder
- *Pedro’s Whale* – Paula Kluth & Patrick Schwarz
- *Understanding Sam & Asperger Syndrome* – Clarabelle van Niekerk
- *To Be Me* – Rebecca Etlinger
- *Amazingly ... Alphie!: Understanding & Accepting Different Ways of Being* – Roz Espin
- *Dinosaur Diego* – Jill Bobula & Katherine Bobula
- *Trainman* – Stefan & Barbara Kavan
- *Little Rainman* – Karen L. Simmons
- *It’s Just a ...What? Little Sensory Problems with BIG Reactions!* – Hartley Steiner
- *A Book about What Autism Can be Like* – Sue Adams
- *Meet Me Where I’m at* – by Cindy Best & Joyce Shor Johnson
- *This is Asperger Syndrome* – Elisa Gagnon & Brenda Smith Myles
- *Asperger’s Huh? A Child’s Perspective* – Rosina G. Schnurr

**INCLUSION**
- *Each Kindness* – Jacqueline Woodson
- *Wings* – Christopher Myers
- *Bird Child* – Nan Forler
- *Oliver Onion: The Onion Who Learns to Accept and be Himself* – Diane Murrell
- *The Invisible Boy* – Trudy Ludwig
- *Weslandia* – Paul Fleishman
- *Thank You, Mr. Falker* – Patricia Polacco