Supporting Introversion and Extroversion Learning Styles in Elementary Classrooms

By

Winnie Frances Leung

A research paper submitted in conformity with the requirements

For the degree of Master of Teaching

Department of Curriculum, Teaching and Learning

Ontario Institute for Studies in Education of the University of Toronto

Copyright by Winnie Frances Leung, April 2015
Abstract

Living in a society that values the extrovert ideal – the archetype being outgoing and highly social, preferring action to contemplation – the introverted child learns early on to aspire to this oppressive extrovert ideal. School and work culture is team driven. Classroom desks are increasingly arranged in pods. Open plan workspaces are often subject to loud noise. Many schools are designed for extroverts. Introverts need different kinds of instruction from extroverts, but often little is made available to that learner except advice on becoming more outgoing. The purpose of the study is to describe teachers’ beliefs and perspectives about introverted students and their experience of schooling. This study is important to the education community because negative assumptions about introversion are in the school system, leading teachers to believe these students are lacking in some way. In turn, students can internalize these opinions, causing crippling disadvantages for themselves in all stages of formal education, beginning in elementary school. I explored the literature and interviewed teachers about how teachers can differentiate their instruction to be instructionally responsive to their students who demonstrate inclinations toward introversion and extroversion. Some findings include attention to space, multiple intelligences, grouping strategies, and choice and flexibility.

Key Words: Introversion, extroversion, learning styles, differentiated instruction
Acknowledgements

I wish to acknowledge and thank the teacher participants interviewed for sharing observations and experiences, and for providing their insights to inform this study of how introversion and extroversion learning styles are supported in classrooms today.

I would like to especially acknowledge and thank my research supervisor Dr. Angela MacDonal-Vemic for all her direction and support. Her dedicated commitment to rigorously reviewing all my chapters enabled me to stay on task to ensure completion. Angela’s guidance and input was an invaluable component of this research paper.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>3</td>
</tr>
<tr>
<td>Abstract</td>
<td>2</td>
</tr>
<tr>
<td><strong>1. INTRODUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Introduction to the Research Study</td>
<td>8</td>
</tr>
<tr>
<td>1.2 Purpose of the Study</td>
<td>12</td>
</tr>
<tr>
<td>1.3 Research Topic/Questions</td>
<td>12</td>
</tr>
<tr>
<td>1.4 Background of the Researcher</td>
<td>13</td>
</tr>
<tr>
<td>1.5 Overview</td>
<td>14</td>
</tr>
<tr>
<td><strong>2. LITERATURE REVIEW</strong></td>
<td></td>
</tr>
<tr>
<td>2.0 Introduction</td>
<td>16</td>
</tr>
<tr>
<td>2.1 Introversion and Extroversion – A Trait or a State?</td>
<td>16</td>
</tr>
<tr>
<td>2.2 Stereotypes and Biases Represented and Assumed</td>
<td>18</td>
</tr>
<tr>
<td>2.3 Is the Education System Set Up to Cater to Extroverts?</td>
<td>21</td>
</tr>
<tr>
<td>2.4 Changing Personalities to Suit Extroversion</td>
<td>25</td>
</tr>
<tr>
<td>2.5 Contemporary Pedagogical Approaches to Teaching</td>
<td>28</td>
</tr>
<tr>
<td>2.6 Conclusion</td>
<td>29</td>
</tr>
</tbody>
</table>
3. METHODOLOGY

3.1 Procedure  30
3.2 Instruments of Data Collection  30
3.3 Participants  31
3.4 Data Collection and Analysis  33
3.5 Ethical Review Procedures  35
3.6 Limitations and Strengths  36

4. FINDINGS

4.0 Introduction  38
4.1 Teachers characterizations of introverts and extroverts draw on themes of sociability as well as learning style preferences

4.1.1 Teachers characterized introverts in terms of their learning and socialization needs and preferences, as well as characteristics such as shyness and lack of confidence  39

4.1.2 Teachers characterized extroverts in terms of their inclination toward sociability, their comfort level with speaking aloud, and their demonstration of leadership in learning environments  41

4.2 Teachers differentiated their instruction by being responsive to students’ learning style preferences via instructional considerations relevant to space, multiple intelligences, grouping strategies, and choice and flexibility  42
4.2.1 Design of School and Classroom Space

4.2.2 Multiple Intelligences and Grouping Practices

4.2.3 Choice and Flexibility

4.3 Teachers created classroom cultures and a community environment that presented opportunities for different types of participation and accommodations, and varying occasions for quiet

4.3.1 Participation

4.3.2 Quiet

4.3.3 Learning Options and Accommodations

4.4 Teachers described discords between teaching expectations and teaching experience as a result of an education system set up to be efficient

4.4.1 The Education System

4.4.2 Group Work and Socialization

4.5 Conclusion

5. DISCUSSION

5.0 Introduction

5.1 Discussion: Engaging the Findings against Existing Research

5.1.1 Balance teaching methods to serve all the students in the classroom

5.1.2 Broaden the definition of what it means to participate

5.1.3 Recommendations for the educational community

5.2 Implications as a Beginning Teacher
How are Introversion and Extroversion Learning Styles Supported in Classrooms?

Chapter 1: INTRODUCTION

1.1 Introduction to the Research Study: Context and Problem

In today’s culture, being loud and sociable is commonly equated with leadership and success. In turn, the outstanding merits of class participation and indicators of success for students are predominately defined by talkativeness. Being quiet and reserved are qualities we often try to ‘fix’ as educators. Parents apologize for shyness. Children are prodded to ‘come out of their shells’ – a psychologically damaging expression which fails to appreciate differences in personalities. Beginning in primary school, many of the most important institutions of contemporary life are designed for those who enjoy group projects and high levels of stimulation. As adults, many organizations insist their employees work in collaborative teams in open-concept offices without walls. People skills are highly valued, and to advance careers, one boldly self-promotes.

While personality psychologists recognize variations in our behaviour exist, they also highlight there is evidence to support the idea that apart from these variations, there truly is such a thing as a fixed personality type (Papadopoulos, 1992). Introversion is a
personality trait whereby one prefers to relate to the world by first taking it ‘inward’ (Papadopoulos, 1992). Introverts’ energy comes from within. On the other end of the spectrum, extroverts are energized by direct interaction with the world, such as socializing (Ibid). And it is a spectrum – on this personality continuum, no psychologically healthy individual is a complete introvert or extrovert all the time. Rather than a fixed trait, it is a fluctuating state of being (Senechal, 2011). We all possess introversion and extroversion to some degree, but according to Jung (who founded analytical psychology) we inherently prefer one over the other (Laney, 2002). Self-reflection can help reveal one’s true preferred nature.

Extroversion includes such related qualities as gregariousness, assertiveness, excitement seeking, warmth, activity, and positive emotions (Senechal, 2011). The extrovert ideal has been documented in many studies (Swann and Rentfrow, 2001). Talkative people are commonly rated as more appealing: they are more attractive, smarter and more interesting. In Swann and Rentfrow’s study, fast talkers with volume and velocity of speech are viewed as more likeable and competent than slow speakers. But research shows there is no correlation between loquaciousness and good ideas (Swann and Rentfrow, 2001).

A 1999 study conducted by researchers from Memorial and McMaster universities asked 480 undergraduates to rate each other's leadership abilities after a semester of working together in teams of five. Extroverts grabbed the reins more often and exemplified strong leadership skills better than the introverts, or so thought the students. The study determined that other qualities, like intelligence and
conscientiousness, were more important for seizing leadership than extroversion, but even if introverts were bright, their peers would not recognize it until they spoke up. A 1997 study by University of British Columbia asked psychology students to rate the intelligence of the other members of their regular discussion meetings. After two sessions, the shy people were perceived as less bright than the outspoken ones. The research team concluded that initially we think people who talk a lot are smart and vice versa. However as the quieter people made themselves known over time, they gradually impressed the other students and by the end of the seventh meeting, they had nearly caught up with the outgoing, smart people on their peers' evaluation forms (McDowell, 2012).

Extroversion is an enormously appealing personality trait, but it has turned into an oppressive standard to which many of us feel we must conform. Oppression is a dynamic in which certain ways of being, for example having certain characteristics, are honored in society while others are marginalized (Kumashiro, 2000). Introversion’s qualities of sensitivity, seriousness and often shyness are treated as second-rate or detrimental, somewhere between a disappointment and pathology. The DSM-V, the psychiatrist’s bible of mental disorders, considers the fear of public speaking (common to introverts) to be a pathology – not an annoyance or disadvantage, but a disease – if it interferes with the sufferer’s job performance (Bogels, Alden, Beidel, Clark, Pine, Stein, and Voncken, 2010).

Studies show that one third to over one half of us are introverts, so teaching methods should be balanced to serve all the students in the class (Cain, 2013). Extroverts
tend to like movement, stimulation and collaborative work. Introverts prefer lectures, downtime and independent projects (Cain, 2013). Because many teachers report being extroverts, research has found that it is very difficult for them to understand introverts (Burruss and Kaenzig 1999). Therefore the teacher may see the introverted student as someone with a problem. This may lead to attempts to get them to be 'friendlier' and outgoing, to work in larger interactive groups, and to talk more often and more spontaneously (Byrnes, 1983).

Introverts need different kinds of instruction from extroverts, but often very little is made available to that learner except constant advice on becoming more outgoing and social (Burruss and Kaenzig, 1999).

1.2 Purpose of the Study

The purpose of the study was to describe elementary teachers’ beliefs and perspectives about introverted students and their experience of learning, and how teachers differentiate instruction for introverted and extroverted students.

This study is important to the education community because negative assumptions about introversion are in the school system, leading teachers to believe these students are lacking in some way (Cain, 2013). In turn, students internalize these opinions, causing crippling disadvantages for themselves in all stages of formal education, beginning in elementary school (Senechal, 2011).

1.3 Research Questions
My main research question and sub-questions included the following:

Main: How do a sample of elementary teachers differentiate their instruction to be instructionally responsive to their students who demonstrate inclinations toward introversion and extroversion?

Sub-questions:

1. How do these teachers conceptualize introversion and extroversion and what indicators of these do they look for being exhibited by students?
2. What range of instructional strategies do these teachers enact to motivate introverted students to practice skills like public speaking?
3. What range of instructional strategies do these teachers enact to motivate extroverted students to practice skills like quiet reflection?

1.4 Background of the Researcher

As a college professor, my students are often surprised when I claim to be an introvert. Many people, especially introverts in leadership positions, engage in a certain level of pretend-extroversion (Cain 2013). In the classroom, I am high energy in my delivery and attempt to connect with my large cohorts of students with smiles and animated side bar conversations. As an introvert, rather than perceive my behaviour as duplicitous, teaching is my core personal project that I am passionate about, which allows me to embrace the boisterous, outgoing qualities of an extrovert when performing in my role as an educator.
Our life experiences are shaped profoundly by our personality, specifically where we fall on the introvert-extrovert continuum. Judgment against quiet can cause deep emotional pain. A website where introverts unite, Lost In Extravert Land, (Chris 2011), one blogger shares: “All the comments from childhood still ring in my ears, that I was …slow, boring…By the time I was old enough to figure out that I was simply introverted, it was part of my being, the assumption that there is something inherently wrong with me. I wish I could find that little vestige of doubt and remove it.” I recall the moment I recognized at a young age that I had an inclination for quiet and solitude. During my first birthday party that I hosted, turning seven years old, after the cake was cut and the presents were opened, all the children went into the backyard to play. My grandmother found me in my room playing alone with all my new toys. She spoke sternly, “What are you doing? Your sisters have been entertaining your friends for the last half hour! Get downstairs now!” In hindsight, I realize that was a poignant learning moment – this type of behaviour was not socially acceptable. I had fun celebrating but had had enough; there were too many people, so I left. It was the last party I ever hosted. But since then as a student, I find myself always adapting to the over-stimulating environment, participating in class sharing incomplete ideas but being heard, striving towards the extrovert ideal.

In all my work years in industry I had forgotten my preference for aloneness. I would attend social functions and enjoy myself but would want to leave after an hour, believing it was because I was tired. When the profession of academia allowed me to structure my own work days, it was then that I discovered that I was an introvert. As an
adult my friends comment “you’re in your head too much,” a phrase often directed at the quiet and cerebral, yet I happily accept my true nature.

Today as a student again completing my post graduate degree at the university, while engaging in practical work experience in primary/junior classrooms, I have observed the physical classroom setting and teaching delivery is largely catered to extroverts, with group seating arrangements and team projects being the predominant themes across all grades. While this factory system of education is supported by what industry wants and what some research reports promotes success, other research reports that solitude is a catalyst for expert performance.

Living in a society that values the extrovert ideal – the archetype being alpha, outgoing, highly social and a risk-taker, preferring action to contemplation – the introverted child learns early on, implicitly and explicitly, to aspire to this oppressive extrovert ideal. So at a young age, some introverts become adept at acting like extroverts. As an introvert, this is significant for us living under the extrovert ideal because it addresses the core of who we really are. I recall often being coaxed to participate and told to speak louder in class, just like they could hear me at recess. Perhaps if those teachers had observed the conditions that created my lack of inhibition on the playground, the teaching delivery could have been modified to encourage and motivate me, rather than seeing my preference to learn through observation as a deficit.
1.5 Overview

In Chapter 2 I review the literature in the areas of introversion and schooling. In Chapter 3 I elaborate on the methodology and procedures used in this study including information about the participants, data collection instruments, and limitations and strengths of the study. In Chapter 4 I describe the research participants and report the data addressing the research questions. In Chapter 5 I articulate what I learned, insights, recommendations for practice and further study, and my conclusion. References and a list of appendixes follow at the end.
Chapter 2: LITERATURE REVIEW

2.0 Introduction

In this chapter I review the research in the areas of introversion and schooling. More specifically I look at what has been found concerning biases against introversion. Next, I review the literature that says the education system is set up to cater to introverts.

2.1 Introversion and Extroversion – A Trait or a State?

Throughout history, our cultural traditions have included the pervasive idea of individual variability, from the highly social-able man of action to the quiet reticent thinkers. The most widely used labels associated with this tradition are the type designators extrovert and introvert. In the 1920s, Swiss psychiatrist and psychotherapist Carl G. Jung first categorized human beings as either extroverts or introverts. As one of the early leaders in the exploration of personality, he saw human behaviour and habits as patterns, and attempted to understand and explain differences in personality according to those unique and variable patterns. Being predominately introverted or extroverted governs various aspects of our lives. Most people utilize elements of both introversion and extroversion in their daily lives; however there generally is a dominant personality trait that reflects best how the individual prefers to work or deal with the environment, especially in times of stress. Working with a challenging problem under a tight deadline, the extrovert will seek the support of teammates while the introvert will retreat to work in solitude. The introvert's main focus is within his/her head, in the internal world of ideas.
and concepts; the extrovert's primary focus is on the external world of people and activities (Papadopoulos, 1992).

Apart from the layperson's spelling of extrovert rather than extravert one finds throughout the research literature, contemporary personality psychologists have a conception of introversion and extroversion that goes from myopic to deliberately broader, encompassing both Jungian thinking and subjective experience. While Jung is credited with developing the constructs of extroversion and introversion, focusing primarily on sensing, intuition, thinking, and feeling; being the important components of his mental and psychological traits theory, today there is no all-purpose definition in how contemporary researchers define introversion and extroversion. For example, some define introversion not in terms of a rich inner life, but as a lack of qualities such as assertiveness and sociability.

While there is a definitional complexity, the experts tend to agree on several points: extroverts are people who live connected to the world around them, and introverts spend more time in their own minds; extroverts thrive in the moment, crave stimulation and relish social contact more than introverts. They get recharged by a party while an introvert is drained by it. Another way of looking at it is that extroverts are people who associate happiness with excitement, whereas introverts are happiest when at peace.

But it is a continuum, both a fluctuating state and fluid trait, as Jung so candidly stated, “There is no such thing as a pure extrovert or a pure introvert. Such a man would be in the lunatic asylum” (McGuire and Hall, 1977; p. 304). For the purposes of this research study focusing on teaching methods and learning theories, describing teachers’
beliefs and perspectives about introverted students and their experience of schooling, extroversion and introversion are defined and differentiated by the overarching concepts of preference for stimulation and interaction versus preference for quiet and solitude.

2.2 Stereotypes and Biases Represented and Assumed

The terms shyness and introversion are often used interchangeably in everyday language. However, shyness as a construct is conceptually distinct from the well-known dimensions of introversion and extroversion. In a hierarchical model of personality traits, shyness is a primary factor whereas introversion is a higher order factor (Papadopoulos, 1992). Constructs related to shyness include sociability and self-esteem. Shyness is the fear of social disapproval or humiliation; shyness is inherently painful – introversion is not (Briggs, 1988).

In her book *Quiet* (2013) Cain explains: "Introversion is not shyness, introversion is a preference for environments that are not over-stimulating" (p.12). Shyness is a fear or anxiety about social situations, and can feel lonely and isolating (Cain, 2013). Introversion is a natural trait. Studies conducted by Briggs have shown a slight correlation between introversion and anxiety/shyness, but introverts and extroverts alike can be shy (1988). What makes one an introvert in the eyes of psychologists is not lack of social skills, but rather the need for solitude, quiet time and preference for an inner world of ideas over the noise of social chatter (Cain, 2013).

But for all their differences, shyness and introversion have in common something profound. The mental state of a shy extrovert sitting silently in a classroom or business
meeting may be very different from that of a quiet introvert – the shy person is afraid to speak up fearing judgment, while the introvert is simply overstimulated needing to retreat – but to the observer, on the outside the two appear to be the same.

In much of the literature studying introversion, there is a bias perspective where the researchers tend to convey the tone of a marginalized population. Helgoe’s *Introvert Power* reads like a manifesto, calling for solidarity and a quiet revolution in understanding introverts. "Alone is not a four-letter word." (Helgoe, 2008).

Many introverts enjoy being social. Sociability is defined as the child who is accepted by others, and is resourceful, intelligent, emotionally stable, dependable, cooperative, and sensitive to the feelings of others (Coie, Dodge, and Coppotelli, 1982). Some introverts are often known to be ‘asocial’ – avoiding social interaction. There is evidence that the shy, quiet child is less at risk for developing behaviour problems than is the disruptive child (Wenar, 1994). While social withdraw is relatively rare, the asocial introvert is often cast as ‘antisocial’ – a personality disorder with a defined pathology (Helgoe, 2008). The choice of language used is significant because starting in elementary school we begin training our children to be leaders.

McDowell (2012) presents an unfavourable stereotype: “He's quiet, shy and keeps to himself. Sounds like a serial killer, not a born leader, right?” (p. 60-63). He then proceeds to present his biases and predispositions upfront by opinionating: “If more introverts took charge, people might all be better off” (p. 60-63). There is an air of discontent as McDowell elaborates: “Despite all of the introvert’s natural gifts, we’re used to seeing extroverts take charge—even when they don't deserve it…He who hesitates in the
meeting room is lost, and introverts often lose their chance to look like leaders…Your loud, swaggering types are as comfortable slipping into the role of boss-or elbowing their way into it-as introverts are fine with stepping aside” (McDowell 2012, p. 60-63).

The prevalent bias perspective in advocacy of introversion is due to disparity in looking at each personality trait – extroversion through a positive lens and introversion through a negative lens – since society valuing the ‘Culture of Character’ changed to a ‘Culture of Personality’ (Susman, 1984). Cultural historian Susman claims there this move has mirrored the shift from an intellectual culture of enlightenment to a culture of industry and business, coveting extroverts’ qualities of gregariousness and assertiveness, while rejecting contemplation and quiet fortitude.

Today the stereotypical extremes of both personality types on the continuum are perpetuated in business culture – boisterous extroverted Richard Branson and unassuming introverted Bill Gates, and pop culture – jovial, risk-taking Captain Kirk dichotomized against cold, reserved techie Spock, a charismatic leader with the reticent nerd in a supporting role. Think of the high-school geek, forever seeking vindication contrasted against the spotlight-grabbing, self-aggrandizing egomaniac, both archetypes customary in television shows (McDowell, 2012). Perhaps it is the media perspective that mostly informs and propagates the stereotypes of introversion and extroversion. This kind of knowledge encourages a distorted and misleading understanding of both introverts and extroverts based on embellished typecasts and myths.

2.3 Is the Education System Set Up to Cater to Extroverts?
When children begin schooling, they are carefully observed to ensure healthy mental and social development. The main facet of social development teachers are told to look for is social interaction. If children have a hard time playing with others or talking with classmates, they are observed carefully and encouraged to join the group. Well-meaning teachers may in fact be overwhelming introverted students by compelling young children into overstimulation. If children are quiet, it is often interpreted as shyness (Briggs, 1988). But after a grace period of observation, the child’s lack of interaction becomes worrisome. Students who prefer to be by themselves or want to work alone are viewed as outliers, or worse, as problem cases (Cain, 2013).

The physical features, psycho-emotional tone, and quality of interactions among students, and between students and teachers have a tremendous impact on how or whether learning occurs. Introverted children’s talents are often stifled at school (Cain, 2013). In the classroom children’s desks are increasingly arranged in pods – the better to foster group learning. This is a belief – that learning in groups in the classroom is beneficial to learning. Students are organized this way not because it is the best way to learn, but because it is cost efficient. The school environment can be highly unnatural, especially from the perspective of an introverted child. It can be loud, crowded, superficial, boring, over-stimulating, and focused on action, not reflection. The culture and environment benefit extroverts because it matches their needs and learning differences. Lunchtime in a school cafeteria is an excellent example of what can be overwhelming to an introvert, where s/he has to jostle for a place at a crowded table. Beginning in school we are primed for life institutions that are often group-oriented and
highly stimulating. Open plan work spaces are often subject to loud and uncontrollable noise. Partitions are often glass and open door policies invite interruption. The result is little to no privacy with colleagues having fewer opportunities for personal and confidential conversations (Cain, 2013).

In the classroom, both learning and teaching are obstructed by our culture of distraction. Senechal (2011) echoes Cain’s perspective in her book, *Republic of Noise: The Loss of Solitude in Schools and Culture*. The Internet offers contact with others throughout the day and night; we lose the ability to be apart, even in our minds. Yet the need for solitude is part of every life. It plays an essential role in literature, education, democracy, relationships and matters of conscience. Senechal reports that the quality of learning in schools has eroded through overreliance on everything from the digital technology of interruption to fad-driven teaching methods that discourage the sustained individual concentration required to foster both creativity and logical thinking.

Recognizing that many approaches to learning are needed to meet the needs of diverse students, the Ontario Ministry of Education’s shared beliefs in the purpose of *Learning for All* states, “Universal design and differentiated instruction are effective and interconnected means of meeting the learning or productivity needs of any group of students” (2013, p. 7). Employing the concept of universal design to schools, the principle of this vision advocates the physical features be designed with the assumption that it suits all learners’ needs, implying the right to solitude. “Fairness is not sameness” (Ministry of Education 2013, p. 7).
In a study by Galanaki (2004), individual interviews were conducted with 180 second, fourth, and sixth graders from Athens, Greece. Their responses were qualitatively and quantitatively analysed. Results showed that school-age children were able to perceive the differences between aloneness and loneliness. Nearly half of them perceived the motivational dimension, which distinguishes voluntary from involuntary aloneness. The ability to recognize the existence of beneficial aloneness, that is, solitude, was extremely limited among second graders, but increased dramatically up to the beginning of adolescence. About two thirds of the total sample acknowledged the human desire to be alone (Galanaki, 2004). The latest research is showing that scientists are beginning to recognize that solitude is a catalyst for expert performance (Cain, 2013).

In Life Skills in Solitude and Silence in the School, Byrne (1983) addresses the rationale and provides suggestions for initiating activities for fostering the positive use of silent and alone time in schools. It is proposed that the acceptance and valuing of silence and solitude as an experience indispensable to human maturity may be a needed catalyst for the healthy development of children.

Introverts love to work alone and intensely on projects s/he cares about, and hang out with one or two friends at a time. Schools emphasize rapid group work and fragmented activity, not the thoughtful study of complex subjects. Academic classes are dominated by group discussions. Rather than being thoughtful about answers, Cain (2013) points out that students are often encouraged to just say something to give appearance of participation. Requests to work alone are commonly denied (Burruss and Kaenzig, 1999). With research suggesting that the vast majority of teachers believe the
ideal student is an extrovert, being out-spoken and out-going; often school is not a positive experience for many introverts (Cain, 2013). For those students who do not subscribe to this ideal, teachers are led to believe there is something wrong with being introverted and it needs to be cured, rather than simply needing to be understood and accepted.

Being out-spoken translates into grades (Byrnes, 1983). Introverts, no matter how informed or well-prepared, often need the support of notes during presentations. Marks are deducted, and marks are awarded to extroverted students who are comfortable with impromptu speaking. At Harvard, a large portion of the students’ grade is based on if a student talks often and forcefully (Cuddy, 2012).

Children tend to be well adjusted if they are socially competent but merely prefer solitary activities to peer interaction (Carlson, Lahey, and Neeper, 1984). While there is no research to suggest introverts are underperforming in the education system, the education system is set up to cater to extroverts, and it becomes an equity issue given that recent research reports more than half of us are introverts (Helgoe, 2008). Under some conditions, introverts are privileged in the classroom. The transition from kindergarten to grade one demands increased self-regulation and behaviour management. Introverted children can sit still and be quiet, while extroverted children fidget and talk out of turn. But overall extroverted children are at advantage because they can thrive in a classroom environment that promotes their desires for interaction and high stimulation (Lambert, 2003).
Our educational system will remain broken unless and until we take on the task of repairing our attention spans—as individuals and as a culture (Senechal, 2011).

2.4 Changing Personalities to Suit Extroversion

Introverts often fight against their retiring instincts in order to succeed, adopting what Cain (2013) calls ‘pseudo-extroverted’ behaviour, acting outwardly like extroverts to navigate the challenging environments of parties, boardrooms and open-concept offices. For an introverted executive, every day involves faking it to make it (McDowell 2012).

This grooming towards society’s ideal begins early in the institution of school, promoting disingenuous behaviours, as opposed to encouraging passions and core personal projects. But our Ministry of Education documents tell us that to ensure equity, all children and students will be inspired to reach their full potential, with access to rich learning experiences that begin at birth and continue into adulthood. To ensure this parity “everything has to relate to the identity of the students; children have to see themselves in every aspect of their work at school.” (Cummins, 2007; p.87).

While others chat, introverts listen, observe, analyze and collect impressions. We also entertain ideas from internal sources: memories, dreams and reflections. In our minds, we work out theories, plan ahead, sort out what happened, converse, compose, draft and design. When introverts are accused of “withholding,” the life-giving aspect of holding, “growing an idea,” gets overlooked. As ideas become fully formed and take on significance, we want and need to express them (Helgoe 2008, p.209-211).
classroom setting, the need for quiet contemplation is often overshadowed by active learning, delivered in the form of rapid fire questions and timed group brainstorming sessions. Verbalizing produced ideas within time constraints is the hallmark of success.

If you are an introverted student, should you try to save your true nature for quiet evenings and weekends, and spend your weekdays striving to interact with classmates? Should you participate more often in class, speak out and connect with team members on projects with energy and enthusiasm? If you are an extroverted student, should you save your true nature for wild weekends, and spend your weekdays focusing and studying? Can, or should people fine-tune their own personalities this way? At what point does controlling our behaviour become disingenuous, futile and/or exhausting? It is difficult, even stressful, for an inwardly oriented person to make oneself highly visible, open to interruption.

In his Free Trait Theory, Brian Little, a former Harvard University psychology professor, explains that we are born and culturally endowed with certain personality traits – like introversion – but we can and do act out of character in the service of “core personal projects” (Little, 2011). Introverts are capable of acting like extroverts for the sake of the work they consider important or anything they value highly. Free Trait Theory applies in many different contexts, but it is especially relevant for introverts living under the extrovert ideal.

Initially Free Trait Theory appears to morally run counter to what we cherish as individuals, expressed in Shakespeare’s quote, “To thine own self be true.” Contemporary philosophers and psychologists echo this sentiment – freedom is the
allowance to be ourselves; happiness exists in our true nature. While the work required to “know thyself” may seem indulgent, even irrelevant, at a time when school reforms struggle to ensure students acquire basic academic outcomes, whatever self-knowledge we attain, the more surefooted our living becomes to serve society well because the subjects learned are as large and complex as life (Palmer, 2007; p. 5).

Many of us are uncomfortable with the idea of assuming a false persona for any length of time. In order to succeed in today’s faced-paced, over stimulating world, western culture encourages acting out of character, faking it until you make it (Cuddy, 2012). Alongside this fundamental message, in her video speech Cuddy (2012) equally stresses it is because “you do belong…and you can do it, fake it until you become it” echoing the motivating delivery of Professor Little’s Free Trait Theory. But often the teaching instruction in classrooms is contrary – participate, speak up, work in teams – because these are the expectations in the ‘real world.’ Introverts, whose behaviours are often mistaken for shyness, are taught to fight against their retiring instincts in order to succeed.

If the teaching delivery of speaking up, participating and working in teams was delivered in a manner of discovering each student’s passion and exploiting it to develop these engaging skills, we would be more accepting of different personality traits, and more able to promote and advance these qualities in introverted learners, to further their success in a more genuine way, allowing them to be their authentic selves.

Johnson, a former marine and schoolteacher widely recognized for educating troubled teens, believes we do not need to fix shy people. When encouraging shy
children to speak, it helps to make the topic so compelling that they forget their inhibitions. Johnson echoes Little’s theory on acting out of character in pursuit of a core personal project. “I am passionate about changing our schools, so my passion overcomes my shyness once I get started on a speech. If you find something that arouses your passion...you forget yourself for a while” (Johnson, 2012).

2.5 Contemporary Pedagogical Approaches to Teaching

To educate is to guide students on an inner journey toward more truthful ways of seeing and being in the world (Palmer 2007, p. 6). Being a teacher is demanding work.

Educators have detailed approaches in order to address the multiplicity and situatedness of oppression and the complexities of teaching and learning (Kumashiro 2000). Attempting to strike a balanced equilibrium of traits in students – getting the shy ones to speak out and getting the loud ones to quiet down – requires multiple skills, knowledge and attitudes. In larger cohorts, the challenge is amplified and often met by teaching to the middle academically, and catering to extrovert learning preferences due to classroom management issues.

According to research in the field of social cognition, learning situations which make use of the social context often achieve superior results over individualistic experiences (Alansari, 2006; p. 265). This finding appears to contradict introverts’ preferred interpersonal learning style aligned with high performance. Gifted students’ preference to work alone is widely espoused, but studies vary widely in their explanations. In another study by French, Walker, and Shore (2011), they re-examined
this notion in terms of motivation and social constructivism among 247 school-identified gifted and high-achieving and regular-education students in Grades 4 through 12. Survey data assessed learning style, interests, preferred learning conditions, learning-related personality, perceptions of learning support, comments about ideal learning situations, and beliefs about why some children might prefer working alone. Some general preference to working alone was found among gifted students, but this was not strong and it varied based on how the question was posed. Gifted students who felt that their work was appreciated by teachers and fellow students reported the strongest preference to work with others.

Good teachers keep spontaneous curiosity alive while enabling children to master the content of the collective intellect, and are concerned when students fail to live up to their individual potential. As student populations evolve and new research emerges, the most effective strategies to achieve the greatest outcomes evolve as well. The best teachers are the ones who continually inspire all their students, from introverted to extroverted, to do their best work.

2.6 Conclusion

This study explores the question “How do a sample of elementary teachers differentiate their instruction to be instructionally responsive to their students who demonstrate inclinations toward introversion and extroversion?” Next, Chapter 3 describes the methodology practised to gain the data to report on findings in Chapter 4, and to inform discussions of findings related to the literature review in Chapter 5.
Chapter 3: METHODOLOGY

3.1 Procedure

This study was conducted using a qualitative approach to educational research and draws on characteristics of narrative inquiry. Rather than proving facts, qualitative research focuses on making meaning (Creswell, 2013). The nature of this qualitative research includes a review of the literature focusing on introversion and learning, and face-to-face interviews with two teachers, teaching in elementary education. Reflecting on eight years of teaching experience, an auto-ethnography also provides an approach for reflecting on personal stories blended with larger themes. With a desire to study my own practices, contemplating personal emotion and cultural perspectives around my own experiences as an introverted teacher and student, this is an exploration in understanding teaching more deeply to improve my own practice.

3.2 Instruments of Data Collection

To understand how teachers understand the learning experience of introverted students specifically, I developed a semi-structured interview protocol (see Appendix B). Study of how teachers differentiate their instruction to be instructionally responsive to their students who demonstrate inclinations toward introversion and extroversion was explored by engaging in a conversational dialogue in the form of questions and answers in one-on-one interviews. These details can only be established by talking directly with
people, going to their homes or places of work, and allowing them to tell their stories unencumbered by what is expected or what has been read in literature (Creswell 2013).

3.3 Participants

Teachers selected for interviews were well-informed about personality types with undergraduate degrees in psychology, and showed a commitment to meeting the different needs of all students in their classrooms. Participants were located through recommendations from teachers that I worked with as a teacher candidate in elementary schools. To satisfy the hallmark of all good qualitative research, the two teachers below were selected due to their perceived differentiated personality traits. In this purposeful sampling approach, the participants in the sample are diverse and seasoned in their professions, ranging from nine to seventeen years of teaching experience at different levels, providing maximum variation in sampling.

Renee had been teaching for nine years in Ontario, with experience in primary/junior level grades 6 and 4, and at the time of the interview was a grade 2 teacher. She was selected as a participant in this study because of her interest in how the psychology of personality impacts how students learn best.

My overall impression was that her personality traits leaned towards extroversion. Highly social, Renee talks easily and likes to be with others. Her predominant teaching approaches include high stimulation exemplified in colourful chart-filled walls; movement and action throughout the classroom demonstrated in math activities like estimating the number of jumping jacks one could do in one minute then physically doing
INTROVERSION AND EXTROVERSION LEARNING STYLES

them; language word hunts exploring around the classroom; lots of contact with others in learning centres; and collaborative spaces for working. Using inductive modes of instruction, there are many open discussions and discovery activities. Renee’s teaching approaches are directed by knowing her students and teaching to their needs.

When different students need different methods and environments for optimal performance, the teacher must differentiate more than just the content of the lesson. Renee uses collapsible study walls to partition the students’ group table setting, recognizing the need for internal reflective focus. In her classroom, Renee honours the need for quiet for likely one-third to one-half of her seven year-old students.

Rielley has been teaching for seventeen years in Ontario, with experience in primary/junior level grades, and is currently a grade 4 teacher. He was selected as a participant in this study because of his belief in meeting all student needs while acknowledging he is still learning how to, after almost two decades as an educator of children.

I would classify Rielley’s characteristics as ambiversion, falling more or less directly in the middle of the introvert-extrovert continuum. As an ambivert, Rielley appears moderately comfortable with groups and social interaction, but also relishes time alone away from a crowd. With a tendency to keep to himself at times, friends say he is being ‘antisocial’, a pathology, instead of asocial, a preference.

Rielley’s philosophy towards teaching is that education is integrated learning seeking to engage students in a learning process that encourages personal and collective responsibility. Recognizing the different learning styles and ability levels of his students,
he constantly changes his teaching instruction to meet their different needs. My interview with Rielley has deepened my knowledge of my research topic, helping to connect it to practice.

Describing myself as a participant, as a narrative researcher collecting stories from individuals, this study uses a biographical approach and auto-ethnography, allowing reflection on my experiences as well as the larger cultural meaning for personal stories. With eight years of teaching experience in Ontario in post-secondary education at the private and community college level in a live classroom setting and online education, experiences in my current profession as a professor are explored. As a teacher candidate with experience in grade 2, 3/4 and 4/5 classrooms, reflections on lesson plans delivered and anecdotal notes taken have contributed to my thinking on the learning experience of introverted students in today’s classrooms.

Data Collection and Analysis

Aspects of the data that were focused on after the interviews were transcribed consisted of teacher observations of modern school design including physical space and instruction, the extrovert, ambivert, introvert teacher experience, and classroom culture and teaching methods benefiting both the extroverted and introverted student. Aspects investigated included facility of quiet time and alone time within a class/school day, challenges and strategies in balancing the needs of students on the extreme ends of the introvert-extrovert spectrum, perspectives on assignment of grades – class participation
versus content knowledge, and classroom expectations of conformity or individuality. To arrive at the findings, data was analyzed by coded themes in line with research questions.

Sharing stories in interviews provides a holistic account by developing a complex picture of the issue under study, involving multiple perspectives, identifying many factors involved in a situation, and generally sketching the larger picture that emerges (Creswell, 2013). This interpretive, material practice makes the world visible, transforming it into a series of representations including field notes, interviews, conversations, photographs, recordings and memos to self. Examining why the participants responded as they did, the context in which they responded, analyzing their deeper thoughts and behaviours that governed their responses, led to understanding the stories lived and told. Not bound by tight cause-and-effect relationships among factors, but rather identifying the complex interactions of factors in any situation, this research focuses on making meaning rather than proving facts (Creswell, 2013).

With close attention to the interpretive nature of inquiry and situating the study within the social and cultural context, the accounts presented convey my background as a teacher, student and introvert, informing my interpretation of the information in the study. Being present in the research provides the advantage to be reflexive, both personal and epistemological. Acknowledging personal values, beliefs, acquaintances and interests have influenced the research and impacted interpretation of the data, epistemological reflexivity attempts to identify the foundations of the discovered knowledge and the implications of the findings. Personal gain is compelled by a desire to
improve my own teaching practice, by embracing methods that are driven by inquiry, supported by research and guided by a vision for teaching.

**Ethical Review Procedures**

This research was conducted under the Ethics Review Protocol of the University of Toronto, with the importance of maintaining ethical standards at the forefront. The ethical review approval procedures for the Master of Teaching program were followed, which stipulate that the study consist of interviews with knowledgeable educators and not involving classroom pupils or observations of the classroom. Participants were contacted in advance of the interviews and the exact reasons for the interview were discussed and explained. After they agreed to participate in the interviews, the teacher participants were provided with a consent letter (see Appendix A) that stated their participation in the study was entirely voluntary, with the option to withdraw from the process. Teachers were informed that they could stop the interview at any time and withdraw from the study at any point. The interviews were scheduled and conducted at the participants’ convenience, outside of school time. During the interview process participants had the right to decline to answer any interview questions for any or no reason. This consent letter also informed the participants about the purpose and content of the study, ensuring any questions regarding the research would be answered satisfactorily.

The Ethics Review Protocol stipulates that data gathered from this research is treated as confidential. The names of participants, schools and school districts were not revealed. Throughout the study, confidentiality and respect for the teacher participants
was of greatest importance. Pseudonyms were provided in the final report, ensuring names and identifying information remained anonymous. To safeguard accountability, each participant was provided with a transcript of their interview for review to confirm that it reflected their outlook and theories.

Limitations and Strengths

A significant limitation to this research study lies in the methodology. Due to the constraints of the Ethics Review Protocol, this research did not involve student interviews or observations of the classroom. Limited by the perspectives of teachers, interviews with students and reports on classroom observations could have provided broader accounts and a more holistic reflection on the learning experience of introverted students. Although this study emphasizes how teachers differentiate instruction for both introversion and extroversion, because of the research design dictated by ethics approval limitations, it does not explore the students’ perspective or my classroom observations of different strategies used by teachers.

Although this research does not directly give a voice to students, the voice of educators is strong. Selection of these particular participants has proven to be one of the strengths of this research. These participants have fully immersed their educational beliefs and teaching philosophies in practice for many years, sharing stories that have greatly informed this study.

Interviewing teachers as an opportunity to validate their experience and the meaning they make from it is the strength of the research design. Any approach to
education must ask, what is the goal? If the ideal goal is education delivery from a holistic perspective, helping students be the most they can be, the true value of the education received can only be realized when we understand our diverse learners. Facilitating meta-learning, the awareness and understanding of the phenomenon of learning itself as opposed to subject knowledge, a teacher can recognize the personality traits of their students and differentiate instruction to enable academic success.

This research is built on the knowledge of experienced educators as currently practicing teachers. Having the advantage of integrating research into the classroom, teachers are powerful authors and agents, empowered through consistent inquiry and engagement with relationship between theory and practice. Their expertise and insight on the classroom and students has provided a rich pool of data to draw common themes from for further exploration to further inform the main research question, “How do a sample of elementary teachers differentiate their instruction to be instructionally responsive to their students who demonstrate inclinations toward introversion and extroversion?”
Chapter 4: FINDINGS

4.0 Introduction

In this chapter I report the research findings from one-on-one interviews with two teachers. These findings are organized into the following four overarching themes that emerged during data analysis: 1) Teachers’ characterizations of introverts and extroverts draw on themes of sociability as well as learning style preferences, 2) Teachers differentiated their instruction by being responsive to students’ learning style preferences via instructional considerations relevant to space, multiple intelligences, grouping strategies, and choice, 3) Teachers created classroom cultures and a community environment that presented opportunities for different types of participation and accommodations, and varying occasions for quiet, and 4) Discords between teaching expectations and teaching experience are a result of an education system set up to be efficient, (reflected in the participants’ perspectives).

Furthermore, I report sub-themes that exist within each theme where relevant, which helps to narrow the focus of the findings and allows differences in participant responses to be distinguished. For each, I report the pertinent data and include participant voices to support my analysis. Excerpts from data sources are provided where appropriate.
4.1 Teachers characterizations of introverts and extroverts draw on themes of sociability as well as learning style preferences

In this section I report data regarding how participants characterized introversion, extroversion, and the relationship between these two. Although each teacher identified shyness as a characteristic of introversion, each weighted the importance of shyness differently in defining the introverts’ personalities.

4.1.1 Teachers characterized introverts in terms of their learning and socialization needs and preferences, as well as characteristics such as shyness and lack of confidence

While these teachers’ characterization of introverts varied in terms of what indicators of introversion they recognized, both participants spoke about where they fell on the introvert-extrovert spectrum and their experience teaching introverted students to elaborate their knowledge of introversion. Both reported that in their experience, approximately half of their students were introverts, and they observed these students’ need for quiet environments and/or alone time.

While acknowledging there is variance across individual students’ experiences, Renee, an extrovert, commented on the cognitive functions and socialization needs of introverts:

Introverts prefer thinking over speaking, and when speaking, introverts prefer to speak to one or two people at a time. Introverts get re-energized by spending time alone. They need it. Introverted students are the quiet ones. There are different
degrees of introversion. Sometimes they’re shy, but not always. They tend to be reflective thinkers in their heads before sharing anything aloud. Introverts prefer to work alone…They often read or draw quietly.

Rielley, an ambivert, who was often nevertheless viewed as an introvert because he is deaf, commented on indicators of introversion that he observed in his students’ behaviours, beginning with the characteristic of shyness:

When I first think of introverted, I think of someone who is shy, more reserved and prefers to spend more time alone or with close friends. They often take pleasure in solitary activities such as reading, writing, using computers, hiking or being with their few close friends during recess breaks. It is difficult to be specific, but in general, I often see many introverted students as shy, quiet or lacking self-confidence. Some prefer to be alone or observe situations before they participate, or they could be more confident in a small group setting.

Rielley used the word ‘shy’ twice to describe his characterization of introverts, implying it is a defining quality of the personality trait. Renee, on the other hand, acknowledged shyness is a characteristic only sometimes seen in introverts.

Rielley also conceptualized introversion in terms of body language expressed. He shared his observation of his introverted students’ facial expressions tending to often be neutral, but did not use that observation to judge their emotional state.
4.1.2 Teachers characterized extroverts in terms of their inclination toward sociability, their comfort level with speaking aloud, and their demonstration of leadership in learning environments

The primary ways that these teachers characterized extroversion was by referring to these students’ inclination toward sociability and their comfort level with speaking aloud. In Renee’s words:

Extroverts aren’t usually shy, most people don’t think so. They like people and [they] like being around people. Extroverted students are the louder ones, they talk easily. During free activity time, they are playing with others.

Rielley described extroverts by focusing on sociability, elaborating on the emotional states of extroverts:

Many extroverted students tend to be enthusiastic, talkative, assertive and gregarious. They enjoy human interactions and are quite sociable. Extraverts are energized and thrive off of being around other people. You will often find them enjoying time spent with people and find less reward in time spent alone. If alone, soon they would be bored or be trying to get someone’s attention. Extroverts love being with a larger group during recess breaks. You can find them playing soccer or tags. During small or large group discussions, many they would often put their arms up and take charge.
Rielley also conceptualized extroversion in terms of body language expressed. He observed extroverted students’ emotional states being evident in their facial expressions.

4.2 Teachers differentiated their instruction by being responsive to students’ learning style preferences via instructional considerations relevant to space, multiple intelligences, grouping strategies, and choice and flexibility

In this section I report data regarding how teachers responded to students’ learning styles. It is important to note that in the first subtheme, Design of School and Classroom Space, this includes both spaces within the classroom that the teacher can control, as well as spaces students have access to within the school. Similar constraints are also recognized in the latter themes and subthemes, as teachers described discords between teaching expectations and teaching experience as a result of an education system set up to be efficient. Teachers’ ability to respond to student needs was influenced by the administrative culture of the school, the degree of flexibility given and resource availability. All of these limited the degree to which these teachers could differentiate their instruction.

4.2.1 Design of School and Classroom Space

Teachers explained that one mechanism for differentiating their instruction to meet the learning needs of both introverted and extroverted students was through the design of classroom and school space. Because the former is more within teacher's
control and hence their *instructional practice*, I attend more to the design of classroom space. It is important to note nevertheless that both participants spoke about spaces that were made available within the school for students to be more and less physically alone. Rielley, for example, explained that while students could be alone in school washrooms, this time was limited because they needed to travel in pairs. Similarly, both teachers explained that while the library is a designated quiet space, students are consistently surrounded by others, even if they are not talking to them. While they could not control some of these aspects of school space, Renee nevertheless described some of the factors and design decisions that she would prioritize in the school if she could:

I imagine spaces that are more flexible so at any given moment, you can choose: does the student want/need to be in a solo space? a small group space? in a more crowded, lively space? – a design that really considers the fact that we go back and forth during the day between wanting/needling each of those three kinds of spaces.

When it came to how they personally designed their own classroom space, however, the teachers made an effort to create spaces where students could be physically alone. Renee, for example, had students sitting together in pods, but she made collapsible study walls available to act as partitions so that students could work and be alone, benefiting introverts’ need for reduced stimulation to concentrate.

Rielley also acknowledged the need to address the environment in differentiated instruction so that the classroom is organized in a way that feels comfortable for
everyone, but commented that within his school, limited resources prevented him from providing options of quiet areas inside the classroom.

4.2.2 Multiple Intelligences and Grouping Practices

Further approaches to differentiating their instruction for more and less introverted and extroverted students included these teachers’ prioritization of students’ multiple intelligences and grouping practices. Here, Renee elaborated on what this looks like in her classroom:

I plan my lessons addressing the multiple intelligences. Student-centred learning in our learning centres addresses many learning preferences. It can get noisy, but we keep the noise level down. Although most introverted students prefer working by themselves, or prefer activities that don’t require speaking or interaction, when the activities are stimulating and engaging and they are learning, they seem to enjoy it. But I think with introverts it’s about reaching limits, being overstimulated and having to retreat for a while to get re-energized. Extroverts enjoy people and collaboration, so broadly we can say group work meets their learning needs. I focus how students learn best, whether introverted or extroverted. For example, often the introverted student thrives with intrapersonal learning and the extroverted student thrives with interpersonal learning. The way our learning centre activities are designed, there are both styles used.
Rielley spoke about the significance of students’ differing learning style preferences as well, stressing the importance of teachers’ responsiveness to the full range of these. He speaks to the social construction of his teaching to inform his practice:

I believe when you collect and gather different learning styles, they help you to become a better teacher. A reliable teacher should be able to understand his/her student’s strengths and weaknesses, and adapt to meet the needs of every student in your class as much as possible. If one learning style doesn’t work, find another one…use your past experience… Over the years, I have taught so many and I still keep learning about all their different needs!

Additionally for Rielley it was important that he group more and less introverted and extroverted students together. Here he explains his rationale:

I always feel it is a good idea to put them together – a small group of introverted and extroverted students. Extroverted students can demonstrate or model how to be assertive and present their materials in front of the classroom with confidence. Introverted students can show their extroverted peers how to sit back and listen attentively and make an effort to think, reflect and organize their feelings/concerns/answers. But I am just generalizing here.

Rielley’s ranges of instructional strategies are enacted to motivate introverted students to practice skills like public speaking, and also to motivate extroverted students to practice skills like quiet reflection.
4.2.3 Choice and Flexibility

Teacher participants shared how their pedagogies address student needs by providing choices. From Renee’s perspective, this was a key characteristic of differentiated instruction:

With differentiated instruction, the classroom is less one-size-fits-all. We design and deliver instruction to best reach each student because not all students in a classroom learn a subject in the same way or share the same level of ability. I allow students to pick the amount of stimulation that is right for them in that moment. That’s optimal but harder to practice consistently in a large class. But when we give students choices about how to learn and how to demonstrate their learning, it evens the playing field for everyone.

Renee thus emphasized not choice in instruction of content or processes, but in assessment and evaluation.

It was also important to Rielley to maximize choices for students:

The idea is to maximize choice by giving students more options by providing lots of different alternatives for how students get their learning. If they need quiet alone time, they should be able to get it. Let it be more of a pick-and-choose situation instead of it being, “Let’s always do it this way.” If learning is just one way, introverts don’t get their restorative time.
4.3 Teachers created classroom cultures and a community environment that presented opportunities for different types of participation and accommodations, and varying occasions for quiet

While the specific content varied across participants, they spoke about the importance of classroom culture and building community early in the school year to provide a safe space for all students to participate. Although not present in the one-on-one interviews, nuances of inclusiveness and building a community of learners was implicitly expressed in the participants’ comments. Both teachers felt their classroom cultures were responsive to the needs of extroverted and introverted students.

4.3.1 Participation

Teachers shared their definitions of class participation and how it factors into engagement and assessment within the classroom culture. While acknowledging traditional modes of assessing active class participation by hearing students’ voice during discussions, each teacher shared views that presented more opportunities for engagement at different levels of stimulation. Renee explained her perspectives and insights:

I have been rethinking what it means, class participation. Participation ends up rewarding quantity, so you get kids raising their hands for the sake of talking. These aren’t the things I’m looking for, for excellence in initiative and collaboration. I’ve started thinking of it as classroom engagement instead. Engagement recognizes that there’s a lot of different ways to engage with the lesson and with classmates. A student who’s a good listener or who gives one
really great, reflective comment is just as valued as the one who’s always raising their hand. But at the same time, I am encouraging my introverted students to be more vocal with their well thought-out ideas, or else no one else will know they have them!

In contrast, Rielley defined class participation as engagement at a group and one-on-one level:

Students may listen attentively or share their answers, feelings or concerns with their peers and teachers. Sometimes after class participation, you can always approach the introverts individually to see if they have something to share, or if they require further assistance. You are assessing their communication, knowledge and application.

4.3.2 Quiet

In addressing student needs, participants recognized the need to address quiet time within the classroom culture. In this context, students are not physically alone. Time for silent reflection was built into the timetables of both teachers. Renee provides one example of daily enforced silence in the classroom:

We have 20 minutes set aside every day after lunch where the students just read. Our classroom is small so some students go to the library, a few curl up on the pillows in the reading centre, some are on the carpet with the partitions, and the rest are fine reading at their shared tables.

Rielley approximates the total amount of quiet time provided in his class daily:
I offer 30 minutes every morning for quiet time which includes quiet reading, snacks and finishing off incomplete homework/assignments.

4.3.3 Learning Options and Accommodations

Responses to student requests to work independently varied among participants and contexts. Renee acknowledged the dissonance between meeting students’ learning needs versus learning team skills:

Sometimes students want to work alone because they need quiet and privacy, but not when it is group work. For example, students have to work in groups of two and three to design an invention on a storyboard. Seems to contradict differentiated learning, but here students have to start learning teamwork skills.

Rielley did not address teamwork skills development and took a student-centred approach to learning options. When a student asks to work alone, Rielley, “respects and honours the student’s requests.”

Although teacher participants had previously stated that they provide choices to in order to be responsive to their students’ learning styles, this is further exemplified in their perceptions and practises of learning accommodations. Renee shared her reflections on providing alternatives to recess:

DPA (daily physical activity) is important, but the notion that all students should restore themselves by running out into a big, noisy yard is very limiting. Some like it, some don’t. For many students it’s unnecessarily chaotic and not that interesting. Some like it on some days, but would prefer an alternative on other
days. I also think playgrounds could be designed to encourage more one-on-one or small group play. I guess it depends on the school’s culture, but teachers should think about providing alternatives to recess. When I don’t have recess duty I open up my classroom and let students quietly sit and play board games in small groups, or read a book, or just hang out and chill.

Rielley again took a student-centred approach to learning accommodations, addressing the preferred styles of introverts and extroverts:

I just provide the necessary accommodations when a student needs it. Maybe some introverted students want to work alone instead of working in partners. That is their preference for intrapersonal learning. They learn best that way. If we are learning about money, they will get their own bag of coins instead of sharing. I differentiate the learning for what the students need. And we do a lot of interpersonal learning. We have our community circles and talk.

4.4 Teachers described discords between teaching expectations and teaching experience as a result of an education system set up to be efficient

Participants in this study commented on how expectations and constraints of the education system impact their experience as a teacher. Within this theme, participant responses are further categorized into the subthemes of The Education System and Group Work and Socialization.
4.4.1 The Education System

Both teachers agreed that, intentionally or unintentionally, the education system is set up to cater to extroverts.

Renee shared her thoughts, suggesting there is a bias built into the design:

I think our schools are designed to suit an extroverted culture. We promote team work very early in education. School is the opposite of most everything introverts prefer. Even if it isn’t designed intentionally to cater to extroverted students, it just happens to be the most efficient and economical way to educate our children. Believe me, I would also prefer a smaller class and more one-on-one learning with my students.

Rielley also acknowledged the biases within the system design, and suggested ways for teachers to overcome them:

I think it is easy for the education system and many teachers to recognize extroverts more than introverts because the former are often more vocal and seeking attention. However there are some teachers who make sure the education system is geared to everyone involved. Some teachers recognize introverts as excellent leaders. I remember giving out an award to this student during graduation and (it was) mentioned there were two different types of leaders. One is loud and the other is quiet. Well, the award-winning graduate was an introvert and despite being quiet and shy, his peers often looked up to him and demonstrated many skills that would benefit his future academic career.
Both participants recognized the challenges of the education system in meeting student needs while also acknowledging that their efforts are impactful (Renee):

You work within the limitations of your school culture and you do everything you can in your classroom to benefit all students, their personalities and learning styles.

Furthermore (Rielley):

I hope our educational system spends more time recognizing different students with different learning styles to ensure everyone has a chance to be successful.

### 4.4.2 Group Work and Socialization

It is important to note that in this second subtheme, contrary to looking at group work through the lens of theme 3, (Teachers created classroom cultures and a community environment that presented opportunities for different types of participation and accommodations, and varying occasions for quiet), from this perspective it includes how students working in groups impacts our perceptions of successful socialization, as teachers teach and assess the hidden curriculum.

Rielley noted collaborative learning is dictated by the Ministry of Education, and in his classroom that translated into a lot of group work. In comparison, Renee generally implemented less large group work, while having students still collaborating:

I try to really mix it up fairly between individual work, group work, and have students do more work in pairs, which is a way that both introverts and extroverts can thrive. There’s one technique that a lot educators will know of already, but should be
reminded of: it’s called “think-pair-share.” What you do is ask a question, and then the teacher thinks about it, and students sit by themselves for a minute or two and they think too. Then they pair up, and discuss their thoughts with their partner. The share part is when they share their thoughts with the group. A lot of students who might be quiet at first will feel reassured by having first discussed it with a partner. So students who are introverted will be more motivated to speak publically in class and share their thoughts because we’ve given them the time they need to reflect on their answer.

Rielley commented on his views of how teachers assess successful socialization of students in groups:

We allow adults all sorts of flexibility in terms of what kind of social life they want. No one thinks twice about adults who only have two or three friends. But in children, we expect them to be highly social or there is a potential problem. The problem is we don’t allow children the same degree of flexibility.

Renee indicated there could options in the scale of socializing to benefit introverts and extroverts:

Socializing in pairs and small groups – If you look at your typical school cafeteria, it is set up with the expectation that the students will eat lunch at gigantic tables full of kids. A lot of us would much prefer to socialize with one or two people at a time. So we should have small tables too. All the social structures should keep that plan in mind. In my classroom I create spaces with the partitions. Students who are
extroverted need this sometimes in order to focus on reflection because there can be too many distractions for them, because often they want to engage with others. This all fits in with differentiated learning and universal design.

4.5 Conclusion

In this chapter I reported the research findings and supporting quotes from the research participants. I learned that both teacher participants have an informed understanding of the traits of introversion and extroversion and use differentiated instruction to address their students’ learning styles in their respective classroom. The teachers were both reflexive and reflective in their responses, sharing group work practises mandated by the curriculum, as well as their insights for improvement. Next, in Chapter 5, I discuss the significance of these findings in the context of the literature I reviewed in Chapter 2. I explain how the findings contribute to this existing body of research. I also discuss the significance of the findings for me as a beginning elementary level teacher and novice educational research scholar. I articulate recommendations for various stakeholders of the education system, and identify areas for further research.
Chapter 5: DISCUSSION

5.0 Introduction

In this chapter I begin by discussing the research findings against the research and literature I reviewed in chapter 2. Specifically, I speak to inequity for introverts in today’s schools because the culture and environment are designed for extroverts. Next, I articulate a range of recommendations for various stakeholder groups within the education system. I then move on to speak to the implications of the research findings for my own practice as a beginning teacher and educational research scholar. Finally, I identify areas for future research, and I conclude by restating the significance of these findings.

5.1 Discussion: Engaging the Findings against Existing Research

Findings based on interviews of both teachers support the research that there is inequity for introverts in today’s schools. Schools are typically designed for extroverts, not due exclusively to a bias towards that trait, but a belief that learning in groups in the classroom is beneficial to learning. Students are organized this way not only because schools believe it is the best way to learn, but because it is cost efficient (Cain, 2013). Each teacher discussed different limitations in meeting introverted students’ needs.

Renee reported practising differentiated instruction in content in terms of what students are going to learn or how they will get access to the information; in the processes, the activities students do or how they learn; and in the products/assessment,
such as the culminating projects/tasks or how students will demonstrate learning. As well, Renee would change the physical classroom environment, to meet her students’ needs. But unlike Rielley, she imposed working in groups to build team work skills. Rielley, on the other hand, said he always gave students choices. But Rielley did not elaborate on any availability of quiet space made available to students in his classroom, implying limitations of the school system. Helgoe’s research supports these teachers’ experiences by reporting that in a classroom environment the dominant culture is active learning, seen as speedy class discussions and timed group-think periods. Students who produce and share ideas within time limits are viewed as successful. The need for quiet contemplation is often not the priority (Helgoe, 2008).

Making physical space for solitude in the classroom and/or school matters because it is a question of equity – giving students what they need to succeed. Introverts and extroverts are mainly differentiated by one factor, how each draws energy. Introverts draw energy from within, and spend it through stimulation. Extroverts draw energy from stimulation. Stimulation is external engagement – in school it is social interaction. Overstimulation overwhelms brain function, causing freezes in linear thinking, so introverted students will lack the usual ability to take in information. To create an equitable environment for learning, teachers must fundamentally appreciate how introverts and extroverts understand the world differently. Introverts try to understand the world before experiencing it, and extroverts need to experience the world to understand it (Papadopoulos, 1992).
Due to the cultural stereotype in our society perpetuated by media, many introverts believe that there is something wrong with them and that they should try to pass as extroverts. Television shows the customary archetypes - the spotlight-grabbing, self-important egomaniac juxtaposed against the high-school geek, forever seeking vindication - Captain Kirk and his second in command, the peculiar Spock (McDowell, 2012). With these cultural understandings of introversion, negative perceptions about introversion become assumed facts. With idealized personality traits seen in extroverts preferred in today’s culture, we unwittingly discriminate introversion’s qualities as weaker and unattractive. Many teachers report being extroverts and find it difficult to understand introverts (Burruss and Kaenzig, 1999). Therefore the teacher may see the introverted student as someone with a problem, leading to attempts to get them to be talkative and interactive.

The research suggests that teachers should not try to ‘fix’ introverts by placing them in high interaction areas of the classroom because rather than talking more in these situations, introverted students will commonly feel more threatened and will have trouble concentrating (Cain, 2013).

This is significant because the ingrained cultural bias is evident in many aspects of the learning process. Increasingly in classroom environments children’s desks are arranged in groups, with the classroom culture focused on action, not reflection. Renee’s students are seated in pod groups and Rielley’s students are arranged in a U-shape. The traditional rows of individual desks that provide introverts with the physical space needed to think deeply are not supported in today’s group-think culture. In the last decade class
desk arrangements have changed from rows of desks facing the teacher to small clusters of desks where students face each other. The new social aspect of the room is supposed to increase interest and involvement in class. Pod arrangements are good for encouraging social interaction, for teaching cooperation, and having children teach each other. But what teachers may not realize is this constant group arrangement is too much stimulation for introverts. Therefore introverted children’s talents are often stifled at school. The culture and environment benefit extroverts because it matches their needs and learning differences (Cain, 2013).

Learning in rows is good for introverted students because it allows them to focus on their work without unnecessary stimulation. Introverts are deep internal thinkers on a few subjects, whereas extroverts thrive on thinking out loud and working with others. Because group projects involve external thinking, introverts find it difficult to cope. Introverts need solitary work to gather thoughts and plans internally before bringing it out to share. Overstimulation of excess socializing in class and hands-on learning approaches can cause introverts to mentally detach themselves from their physical surroundings. This coping mechanism can lead teachers to believe students are aloof or disinterested, and actually try even harder to engage them. Overstimulation affects introverts in ways that are not visible but are harmful. It limits the ability to take in information. These stresses add to the natural draining of introverts’ energy throughout the school day.

All this is significant because the physical features, psycho-emotional tone, and quality of interactions among students, and between students and teachers have a
tremendous impact on how or whether learning occurs. As most elementary teachers are extroverts, they have a tendency to move quickly from one student to the next, often leaving introverted students feeling overwhelmed, and possibly neglected (Burruss and Kaenzig, 1999). Realizing this will better inform how I engage with students and how they participate.

5.1.1 Balance teaching methods to serve all the students in the classroom

Recognizing that extroverts tend to like movement, stimulation and collaborative work, while introverts prefer lectures, down time and independent projects, differentiated instruction to address all learning styles should be mixed up equitably. Introverts think deeply on limited topics whereas extroverts can focus on a wide range of topics, accepting the initial values of the information. Therefore students’ ability to engage with discussions and activities will differ. Supported and guided by the Ontario Ministry of Education’s Learning for All, both Rielley and Renee implemented differentiated instruction in various ways (Ontario Ministry of Education, 2013). Rielley responded to his individual student’s learning styles by using his past experiences as well as adapting to new student needs. Renee instead used learning centres with differentiated activities with different levels of stimulation to meet her students’ learning needs.

A concern might be that adjusting the learning process to aid introverts would harm the educational development of extroverted students. It is not about changing the classroom mindset to cater to introverts only. The problem is that schools cater to one
over the other. The answer is not to reverse the tables. It is a call for equity in the classroom learning environment.

Recognizing that many learning approaches are needed to meet the needs of diverse students, the Ontario Ministry of Education’s employs the concept of universal design to schools. The principle of this vision advocates the physical features be designed with the assumption that it suits all learners’ needs, implying the right to solitude (Ontario Ministry of Education, 2013). Yet Renee and Rielley commented that children are often never alone at school. The Ministry of Education documents state that to ensure equity, all children and students will have access to rich learning experiences, and be inspired to reach their full potential (Cummins, 2007). Research reports that solitude is a catalyst for expert performance, especially for introverts.

While there is no research to suggest introverts are underperforming in the education system, the education system is set up to cater to extroverts, and it becomes an equity issue given that recent research reports more than half of us are introverts (Helgoe, 2008). Introverts are privileged in the classroom under some conditions. The transition from kindergarten to grade one demands increased self-regulation and behaviour management. Introverted children can sit still and be quiet, while extroverted children fidget and talk out of turn. But overall extroverted children are at advantage because they can thrive in a classroom environment that promotes their desires for interaction and high stimulation (Lambert, 2003).

Both teacher participants acknowledged the challenges of the education system in meeting all student needs, while also recognizing that their individual efforts are
impactful. Renee works within the limitations of her school culture and does everything she can in her classroom to benefit all students, their personalities and learning styles. Rielley acknowledges the efforts of many teachers and has hope that our educational system spends more time recognizing different students with different learning styles to ensure everyone has a chance to be successful.

5.1.2 Broaden the definition of what it means to participate

Students often do not participate in class discussions because of lack of confidence (Weimar, 2013). Introverted students may be better equipped to actively participate with technology integrated into the classroom. Also this benefits those who are shy, providing both introverted and extroverted students opportunities to participate in online discussions without the anxiety of public speaking impeding their efforts. Polls and online blogging can engaging and connecting with diverse student populations, including the introverted learners, who need time to reflect before contributing. As deep thinkers, introverts internalize the information they receive and then process it. While the student may appear outwardly to be disinterested, or have nothing to add to the conversation, s/he is actually engrossed in an internal dialogue. In junior grades, online teaching techniques can provide students with the opportunity to reveal thoughts, ideas and themselves in ways they might not in a live class discussion. It gives everyone a chance to contribute. Once they have participated online, they are more likely to participate in class as well, therefore achieving better classroom engagement and interaction (Weaver and Jiang, 2005).
To broaden the notion of what constitutes participation to include online and written participation, as well as subtle skills like being a good listener, this would address differentiated instruction in processes (activities students do or how they learn), assessment (how students will demonstrate learning), and environment (how the classroom feels), while delivering the same content, and promoting inclusion. This is supported by research findings.

Teacher participants recognized the need to provide different ways for students to participate in the classroom, acknowledging the difference between quantity and quality of verbal responses. Rielley defined class participation as engagement at a group and one-on-one level, allowing students to select the amount of stimulation they needed in each moment. Renee distinguished between assertiveness and good ideas shared. The traditional view on participation rewards quantity. Renee expanded participation to include engagement, giving equal value to students who are good listeners. Students who share one deeply reflective comment are just as valued as students who are always raising their hand.

This matters because schools and society unfairly expect extroverted qualities in introverts. By being labelled unsocial, introverts face losses of academic opportunities, as well as accepting detrimental assumptions of self-worth, starting in elementary school. The extrovert ideal has been documented in many studies. Talkative people are rated as more appealing: they are more attractive, smarter and more interesting. Fast talkers with volume and velocity of speech score as more likeable and competent than slow speakers.
But research shows there is no correlation between loquaciousness and good ideas (Swann and Rentfrow, 2001).

Research teams from two studies concluded that initially we think people who talk a lot are smart and vice versa. However as the quieter people made themselves known over time, they gradually impressed the other students in their class (McDowell, 2012). Rielley also spoke about an award-winning graduate who was introverted. Despite being quiet and shy, his peers often looked up to him because of his strong leadership skills.

5.1.3 Recommendations for the educational community

Three recommendations stemming from the research to inform the educational community include recognizing the difference between shyness and quiet to meet children’s needs, adjusting learning to include more one-on-one discussions and more independent work on projects that each student is passionate about, and understanding that introversion should not be thought of as something that needs to be cured.

Shyness is not a fixed behaviour, rather an emotional state. Shyness, a behaviour exhibited by both extroverts and introverts, is usually critiqued in society. Rather than a deficiency, shyness should be reframed by describing a child’s preference for quiet observation and contemplation. Introverts who are not shy may seem aloof or self-contained, but their inner landscapes are rich and full of drama. Without the basic understanding that some children are naturally quiet and not socially defective, teachers
run the risk of putting children in uncomfortable positions, sometimes even making them feel believer there is something wrong with them.

One major concern is how to tell the difference between introversion and shyness. How can teachers be expected to help children with social anxiety who actually want to join the group and need that extra push, if they are to respect the boundaries of introversion? While at a glance the two do seem similar and do sometimes overlap, extroverted students face social anxiety and shyness just as much as introverted students. With young children, it is easy to tell the difference between introversion and shyness. Teachers aim to know their students and should be familiar enough with their students to notice when they are uncomfortable. It is visible almost immediately which students are content sitting on the sidelines and which are simply too anxious to join. The socially anxious might not be able to react well in one-on-one settings. They will also try to join the group, and then seem to lose confidence and withdraw. Introverts, on the other hand, will remain watching contentedly from the sidelines, and speak with confidence in one-on-one settings. By catering to the needs of introverted students, shy extroverts can find a transition between joining the group or sitting on the sidelines.

The second recommendation to inform teachers’ practices in the classroom is to adjust learning to include more one-on-one discussions and more independent work on projects that each student is passionate about. The purpose of this recommendation is not to take any merit away from large class discussions and group work. When students come together and have an exchange of ideas, it benefits extroverts and introverts. Learning in groups is important for teaching social development and teamwork,
sometimes especially for introverts. Face-to-face contact is important because it builds trust, but group dynamics often contain unavoidable impediments to creative thinking for introverts. To facilitate successful group interactions, group work should be carefully structured so that each child knows their role, (necessary for introverts and beneficial for extroverts). During class discussions, teachers can wait ten seconds after asking questions. This gives time for introverts to think and encourages reflectiveness for extroverts. ‘Think-pair-share’ techniques are another way of encouraging participation, starting with one other person. We need to be teaching children to work together, but we also need to teach them how to work on their own. This is especially important for extroverted children. They need to work on their own because that is where deep thought comes from.

We need more autonomy and privacy at school. Renee addressed students’ needs at recess and in the lunchroom by presenting options in scale of socializing to benefit both introverts and extroverts. By allowing students the choice of staying indoors during breaks, introverts can reduce their stimulation and re-energize while extroverts can increase their stimulation and re-energize outdoors. Rather than just giant tables in the school cafeteria, she envisions small tables so that students can socialize in pairs and small groups.

In pre-service education we must be sure to understand that introversion should not be thought of as something that needs to be cured. If an introverted child needs help with social skills, teach them or recommend training outside of class, just as we would do for a student who needed extra attention in math or reading. If the teaching delivery of
speaking up, participating and working in teams was delivered in a manner of discovering each student’s passion and exploiting it to develop these engaging skills, we would be more accepting of different personality traits, and more able to promote and advance these qualities in introverted learners, to further their success in a more genuine way, allowing them to be their authentic selves. When encouraging shy children to speak, it helps to make the topic so compelling that they forget their inhibitions. Johnson echoes Little’s theory on acting out of character in pursuit of a core personal project. In her classrooms she found that for shy students, if you can find something that they are passionate about, they become animated with excitement and forget their shyness (Johnson 2012).

5.2 Implications as a Beginning Teacher

Learnings from this research study will inform my profession as a teacher by guiding my practice of classroom group work. I will plan lessons and teach using differentiated instruction with many choices offered. I will be more aware of own biases and cognizant of stereotyping. Specifically I will ensure my classroom arrangement is agile, with the ability to change seating.

5.3 Further Study

Stemming from my research, questions that were raised through this qualitative study that provoke areas for further inquiry include:
What are strategies used by teachers to evoke different types of class participation that address the learning needs of introverted students who are easily overstimulated?

What is the instructional potential of using digital technology to engage introverted learners in collaborative tasks?

What kinds of agile classroom arrangements can be used to address the learning needs of introverted students?

5.4 Conclusion

This study recognized that these teachers see their roles as facilitators of success in all their students’ academic and social lives. Observations and experiences with many kinds of students were viewed as important to their development as teachers to form a deeper understanding of differentiated instruction. Living in a society that thrives on ideas and interaction, teachers reported that classrooms are made up of a healthy mix of introverts and extroverts. For everyone, consideration was given for reflection and wait-time so that students could come up with the kinds of ideas, creations and solutions that high-quality performance requires.

Participants also discussed the vast differences that exist between school systems set up for efficiency versus their efforts at addressing individual needs in the classroom, but these differences were received with understanding that it was necessary to work within the limitations of the constraints of the system in order to help their students
succeed in learning. This finding is independent of the participants’ approval or rejection of the education system.

The current study’s results do not dismiss the suitability of the education system for all students, but rather encourages educators, principals, and school officials to further investigate ways of supporting teachers in addressing students’ diverse learning needs in the classroom. The qualitative data provided by this research study’s assessment leads to several practical recommendations to assist teachers, administrators and pre-service educational institutions to create conditions in the classroom to better address the different learning styles of all students. Recommendations stemming from the research to inform the educational community address the main research question of this study, “How do a sample of elementary teachers differentiate their instruction to be instructionally responsive to their students who demonstrate inclinations toward introversion and extroversion?” Including more independent work on projects that each student is passionate about is supported by free trait theory (Little, 2011). When introverts are passionate about a core personal project, they are capable of acting like extroverts for the sake of the work they consider important or anything they value highly. This is especially relevant for introverts living under the extrovert ideal. Introverted students need be more vocal with their well thought-out ideas, or else no else will know they have them.

If teachers recognize students’ personality traits of introversion and extroversion, they can make seemingly minor changes to classrooms, such as allowing a student to
physically move away from their pod group and/or use a privacy partition, to better
address the learning styles of introverted students.

It is my hope that the education system will increase education, support and
resources for teachers so that they can continue helping and educating their students to
the best of their abilities. This means aiding introverts as well as extroverts. Because
solitary work breeds deep linear thinking, pulling the extroverts in to the same degree as
pushing the introverts out, will benefit both and create an environment that supports all
children’s social and academic development.

Allowing students to be alone so that they can be creative and imagine the
innovation of tomorrow can facilitate fostering diversity and inclusion in the classroom.
It is important to acknowledge students’ quiet strengths. Recognize the strength of quiet
and the necessity of volume – the synergy of opposing approaches complete each other.

A third to a half of students in all of our classrooms are introverted. My hope is
that we reflect deeply on our attitudes to introversion and to quiet and solitude. In the
spirit of inclusion, we celebrate these children for who they are. Let us ensure they are
softly heard.
REFERENCES


http://www.brianrlittle.com/articles/%EF%BF%BCpersonal-projects-and-free-traits/


Appendix A: Letter of Consent for Interview

Date: ______________

Dear _______________,

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching student. I am studying “How Introversion and Extroversion Learning Styles are Supported in Classrooms” for the purposes of a graduate research paper. I think that your knowledge and experience will provide insights into this topic.

The purpose of this requirement is to allow us to become familiar with a variety of ways to do research. My data collection consists of a 45 minute interview that will be audio-recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you, in or outside of school time.

The contents of this interview will be used for my research project, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a research conference or publication. I will not use your name or anything else that might identify you in my written work, oral presentations, or publications. This information remains confidential. The only people who will have access to my assignment work will be my research supervisor and my course instructor. You are free to change your mind at
any time, and to withdraw even after you have consented to participate. You may decline to answer any specific question. I will destroy the audio recording after the paper has been presented and/or published which may take up to five years after the data has been collected. There are no known risks or benefits to you for assisting in the project, and I will share with you a copy of my notes to ensure accuracy.

Please sign the attached form, if you agree to be interviewed. The second copy is for your records. Thank you very much for your help.

Yours sincerely,

Researcher Name: Winnie Leung
Phone Number, Email: winnief.leung@mail.utoronto.ca

Instructor’s Name: Angela MacDonald-Vemic
Phone Number, Email: angela.macdonald@utoronto.ca

Consent Form

I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw at any time without penalty.

I have read the letter provided to me by Winnie Leung and agree to participate in an interview for the purposes described.
Appendix B: Interview Questions

1. This research is focused on the topic of introversion and extroversion in teaching and learning. Can we begin first by you sharing with me how long you have been teaching, what grade you currently teach, and how you developed an interest in this topic of introversion and extroversion in teaching and learning?

2. What does the term introverted mean to you?

3. Where do you feel you fall on the introvert-extrovert spectrum?

4. How have your childhood learning experiences as an introvert/extrovert impacted your practice as a teacher?

5. What characteristics do you identify with students who are introverted? How do you recognize introversion in students? What indicators do you look for?

6. In your experience, how many introverted students do you commonly have in your classroom?

7. What instructional considerations do you make for meeting their learning needs?

8. What does being responsive to these students’ learning styles mean to you?

9. What characteristics do you identify with students who are extroverted? How do you recognize extroversion in students? What indicators do you look for?

10. In your experience, how many extroverted students do you commonly have in your classroom?

11. What instructional considerations do you make for meeting their learning needs?
12. What does being responsive to these students’ learning styles mean to you?

13. Is your impression that the education system is designed more toward introverted or extroverted students? What gives you that impression?

14. Are there spaces in your school and/or classroom for students to be alone or work silently?

15. How do you define class participation? Do you award grades for class participation? Why/why not?

16. Do you feel the classroom culture you build is responsive to both extroverted and introverted students? If yes, in what ways? If no, why?

17. Approximately how much classroom time do you dedicate to private reflection or enforced quiet? Why is that the case?

18. What do you do when a student requests to work alone?

19. When do you make informal learning accommodations for students based on personality traits of introversion and extroversion?

20. What are the challenges you experience trying to balance the needs of your students on the extreme ends of the introvert-extrovert spectrum? For example:
   a. What are some of the different ways you motivate the introverted student to practice a skill like public speaking?
   b. What are some of the different ways you motivate the extroverted student to practice a skill like quiet reflection?
   c. What factors and resources support you in this work?