Enhanced Possibilities for Teaching and Learning: A Whole School Approach to Incorporating Multiple Intelligences and Differentiated Instruction

By

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Abstract

This research study looks at teachers who make multiple intelligences an individual and consistent priority as they effectively employ instructional strategies and assessment techniques through differentiation. In today’s education system, there is an overwhelming emphasis on verbal/linguistic and logical/mathematical intelligences and as a result, students’ diverse learning needs and styles are not being met (Stanford, 2003). Seemingly, new teachers go into schools where the norm promotes one-size-fits-all teaching due to the lack of support to change and adapt strategies to better meet students’ unique needs and abilities (Edwards, Carr, & Siegel, 2006). The purpose of this study is to investigate why teachers are struggling to teach to students’ multiple intelligences and provide differentiated instruction within the classroom. Research shows that differentiated instruction (DI) and teaching to students’ multiple intelligences (MI) are practical and effective ways to achieving inclusion and equity. In this research study, relevant literature is reviewed and face-to-face, semi-structured interviews are conducted with three experienced teachers. The findings show that effectively integrating MI and DI in the classroom increases student motivation and engagement. Employing these educational models is complex and time-consuming but when done so effectively and willingly, students’ needs can be met and all students can succeed. In the study, students at THS School benefit from an integrated, arts-based curriculum, project-based and performance-based assessments, individualized learning and flexible grouping. Staff training, collaboration with colleagues, and positive personal values and experiences are pertinent in the successful implementation of MI and DI. Educators must be willing to learn, try new strategies, reflect on their practice and keep up with the research into educational psychology that informs their profession.

Key Words: education, multiple intelligence (MI), differentiated instruction (DI), practical strategies, inclusion, student engagement
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Chapter 1: INTRODUCTION

Introduction to the Research Study

“Each classroom in a school is an intelligence garden. While plants look the same from a distance, each grows in a different way and produces a different fruit” (Temur, 2007, p.87).

Teaching in the twenty-first century emphasizes diversity and recognizing that each student possesses his or her own set of unique strengths, needs, interests and learning styles. In today’s classrooms, educators are expected to provide equitable opportunities for students to achieve their full potential in all aspects of development. Students come into the classroom as individuals with unique cultures, ethnicities, beliefs and attitudes (McFarlane, 2011). It is believed and assumed that educators embrace these differences by adapting their teaching practices to better meet the abilities, personalities and learning styles of their students (Levy, 2008). Unfortunately, this assumption is generally not reflected in teachers’ planning, teaching and evaluating (Levy, 2008).

Through the implementation of differentiated instruction and teaching to students’ multiple intelligences, teachers can effectively meet students’ needs and promote student engagement, motivation and participation (Gable et. Al, 2000; Guild, 2001). The phenomenon of differentiated instruction is closely related to Howard Gardner’s theory of multiple intelligences. Multiple intelligence (MI) theory can be described as a philosophy of education. A component of Gardner’s theory holds that each individual is comprised of eight intelligence domains: verbal/linguistic, logical/mathematical, visual/spatial, bodily/kinesthetic, musical/rhythmic, interpersonal, intrapersonal, and naturalistic intelligence (Stanford, 2003). Even though each individual possesses all eight intelligences in greater and lesser degrees, they may be strong in a few areas and prefer to gather information and experience the world through particular
TEACHING TO MULTIPLE INTELLIGENCES

intelligences. Verbal/linguistic intelligence entails the production of language, reading, writing, and symbolic thinking. Working with abstract symbols, recognizing patterns and making connections are features of logical/mathematical intelligence. Visual/spatial learners prefer material presented through visual arts, maps, and perception games. Students who learn by using their body to express emotions possess bodily/kinesthetic intelligence. Musical/rhythmic intelligence includes the recognition and use of tonal and rhythmic patterns, the human voice, musical instruments and environmental sounds. Interpersonal learners enjoy working cooperatively with others and communicating verbally and nonverbally with people, while intrapersonal learners focus on the internal aspects of the self, such as self-reflection, knowledge of feelings, emotions and spiritual realities. Lastly, naturalistic intelligence involves the ability to identify patterns in nature, mastery of taxonomy and sensitivity to the natural world and global education (Stanford, 2003).

Differentiated instruction (DI) can be explained in terms of instructional practices and strategies to assist in teaching, planning and evaluating students’ learning. It is a set of strategies that assist teachers in meeting each students’ needs by ensuring flexibility in what we teach, how we teach it, and how students demonstrate what they have learned (Levy, 2008). The key to effective differentiation is flexibility and adaptability. In theory, by adjusting one’s teaching methods and styles, implemented activities and lessons will accurately reflect the diverse abilities, interests and learning styles of each student.

The proposed study will examine a whole school’s approach to teaching to students’ multiple intelligences through differentiated instruction. Through the study, the theory of multiple intelligences and the concept of differentiated instruction will be used as a framework to
demonstrate how students’ needs could be met effectively and appropriately in a classroom setting and whole school community.

**Key Terms**

Various key terms are used throughout this study and are defined and described with reference to literature. McFarlane (2011) has defined *intelligence* as an asset of all humans, an aspect on which individuals may differ, and the ways in which people complete tasks to achieve a desired goal. *Multiple Intelligence Theory (MI)* is a theory developed by Howard Gardner, deeming that there are eight different types of intelligences. It is a philosophy of education or an attitude toward learning. In a MI classroom, the teacher frequently changes methods of presentation and may combine intelligences in creative ways. Teachers also use varied teaching strategies, expanded curricula, and authentic assessment (Stanford, 2003). Similar to MI, *differentiated instruction (DI)* is described as an instructional method that is implemented to meet the unique needs of individual students in a diverse classroom. DI consists of modifying the content of activities, lessons, and experiences, and providing meaningful experiences to cater to individual needs and preferences. It may also include the use of manipulatives, graphic organizers, technology, audio, and visual elements (Stager, 2007). In this study, *diverse learner* is defined as student diversity which includes intelligence level, gender, race, socio-economic status, modes of thinking and problem solving, and language (Stager, 2007). As well, diversity is explained as a representation of students’ languages, ethnicities, cultures, religions, personalities, learning styles, and socialization-backgrounds (McFarlane, 2011). Lastly, this study examines a *whole school approach* to teaching which refers to schooling built on MI where all staff and educators employ Gardner’s theory as the framework in developing their educational philosophy.
Purpose of the Study

The purpose of the study is to investigate how teachers are teaching to students’ multiple intelligences and incorporating differentiated instruction within the classroom. In today’s education system, there is an overwhelming emphasis on verbal/linguistic and logical/mathematical intelligences and as a result, students’ diverse learning needs and styles are not being met (Stanford, 2003). Seemingly, new teachers go into schools where the norm promotes one-size-fits-all teaching due to the lack of support to change and adapt strategies to better meet unique needs and abilities (Edwards, Carr, & Siegel, 2006). Many researchers and teachers advocate for students’ rights and equal opportunities to participate in an inclusive environment. Differentiated instruction (DI) and teaching to students’ multiple intelligences (MI) are practical and effective ways in working toward achieving equity. The study will investigate how instructional strategies are used in the classroom to meet every student’s needs. In addition, the study will examine teachers’ perceived impact on students’ learning by looking at their students’ performance, and engagement through participation, motivation, and interest.

Research Questions

The goal of the study is to learn how to effectively incorporate MI and DI into the classroom so students’ self-confidence increases as they become more academically successful by noticing and recognizing their own preferred learning strategies (Temur, 2007). I hope to learn from teachers to increase educators’ knowledge base and offer strategies so that more teachers may feel confident and capable of integrating differentiated instruction during routines, lessons and meaningful experiences. According to McFarlane (2011), “multiple intelligences affords us the opportunities to better understand people from different social, cultural, political and historical backgrounds and relate to the contexts in which they live and learn” (p.4). In turn,
differences may be embraced, diversity will be promoted, and students will feel more accepted and included in a positive and sensitive classroom environment. This study’s main research questions is: How do a small sample of private elementary school teachers teach to students’ multiple intelligences through differentiated instruction, and what are their perceived impact on students’ engagement and performance? More specifically, I hope to learn:

1. What does multiple intelligences and differentiated instruction mean to each interviewed teacher?
2. What factors support and hinder the teachers in employing MI and DI in their classroom?
3. How do teachers use these theories and concepts as a framework for educational practices?

Background of the Researcher

The study derived from my experiences as a teacher candidate interested in revisiting the educational experiences that shaped and framed my own personal philosophy of education. The study will take place at my former elementary private school in Toronto, Ontario. This school has used multiple intelligences as the foundation of their educational philosophy and staff members are required to teach to students’ multiple intelligences through differentiated instruction. I attended the school from grades two to five, and developed strong relationships with my teachers. The selected participants will be my former math, science and literacy teachers. This may pose a threat to the validity of my study so I may choose to interview one former teacher and two educators that did not teach me as an elementary student. As the school is a private school, I must be aware of the demographics of the area. Only certain members of society have the opportunity to attend this school and experience their unique philosophy and atmosphere. Families from a high socioeconomic status are privileged to have access to this
school. As well, in order to be enrolled in the school, students must fit a certain criteria, such as a specific grade point average and a strong willingness to learn. It will be interesting to revisit the school as a teacher candidate and to digest their philosophy and school experience with a critical eye and more knowledgeable perspective.

This topic has been an interest of mine for several years through academic and practical experience in the field of education. As a student attending an elementary school that valued and emphasized MI, I have personally experienced the benefits and pleasure of authentic experiences that met the needs of every student. These unique and positive experiences have shaped my own personal philosophy of education. As a registered early childhood educator, I have used MI and DI in my kindergarten classroom and have seen the benefits first-hand. For instance, I have observed students’ willingness to participate as they were actively engaged in my planned activities. As well, as many learning styles were being addressed, students seemed to feel more comfortable and at ease as they were given opportunities to express themselves and present information in a variety of ways. I have also witnessed students in other classrooms whose needs are not being met and as a result, teachers are constantly dealing with behaviour management issues. I have been promoting the use of MI and DI for several years yet teachers are consistently struggling to employ effective strategies. Thus, the study will aim to assist educators in implementing appropriate strategies by gathering information and data from experienced teachers who consistently prioritize MI and DI in their classroom.

Overview

The study is organized into five chapters. In chapter two, I review relevant literature by connecting previous studies to the proposed study. The collected literature defines and discusses the educational models of multiple intelligences and differentiated instruction. As well, I look at
research on why teachers struggle to implement MI and DI and how this negatively affects students’ learning and achievement. In addition, I examine Vygotsky’s theoretical framework in support of MI and DI. I also review studies that discuss instructional strategies and ways in which teachers can easily employ MI and DI in their classrooms. Lastly, I examine studies and the perspectives of scholars who both support and critique the theories, discussing the strengths and limitations of MI and DI.

In chapter three, I describe the research methodology. For the study, one private school is examined and three teachers are interviewed. More specifically, the chosen school is situated in Toronto, Ontario. It is a private Jewish Day School for Kindergarten to Grade Eight. It was founded in 1996 and adopted MI as its educational philosophy. As only one school is examined, the study consists of case study characteristics. Data is collected through informal face-to-face interviews. Interviews are recorded manually with participants’ consent.

In chapter four, I describe the research participants and I report the data. The selected participants are three experienced teachers who differentiate instruction effectively. The head of the school, a Junior teacher and Primary teacher are interviewed. The selected teachers have at least seven to ten years of experience teaching at this private school and have a high self-efficacy about using MI. According to Ladd (2013), experienced teachers are more effective in increasing student achievement for elementary, middle, and high schools as they have years of knowledge, involvement and practice in the field of education. These teachers consistently prioritize MI and DI in the classroom and are committed to the educational significance of both theories. As the school’s educational philosophy is grounded in MI, the teachers have attended internal staff training, conferences and professional development courses to gain knowledge and experience in MI.
Lastly, in chapter five, I delineate limitations of the study, articulate conclusions and recommendations for practice, and outline areas requiring further research. The discussion is categorized into five headings to analyze the findings: 1) instructional strategies; 2) perceived impact on students’ learning; 3) teacher efficacy and beliefs; 4) support teachers receive; and 5) the challenges they face.
Chapter 2: LITERATURE REVIEW

I have selected and included particular research studies and secondary sources discussing, analyzing, and evaluating multiple intelligence theory and differentiated instruction in this review as all sources made pertinent reference to both models in regards to teaching and learning. My proposed investigation will look at teachers who make multiple intelligences an individual and consistent priority as they effectively employ instructional strategies and assessment techniques through differentiation. The selected sources provide definitions, explanations, and criticisms of multiple intelligences theory and differentiated instruction approaches. The literature review is organized by first exploring the alternative educational models of multiple intelligences and differentiation. Next, it is crucial to make connections by looking at their theoretical framework. Implications for teachers are then presented by identifying and describing instructional strategies and practices. Lastly, differing viewpoints are mentioned that support and criticize MI and DI. I am interested in the differing perspectives and notions about MI and DI, and thus have included various secondary sources that will support my own study, where I hope to learn from teachers how to confidently integrate differentiated instruction and multiple intelligences in increasingly diverse and contemporary classrooms.

Alternative Educational Models

Multiple Intelligence Theory

Gardner’s theory of Multiple Intelligences (MI) is analyzed by several authors and researchers. Allock and Hulme (2010) explain that his theory rejects the traditional educational focus on literacy and numeracy and proposes that in order to promote inclusion, students must be taught through differentiated instruction as they are intelligent in multiple ways. Similarly, Temur (2007) deems each classroom in a school as an intelligence garden and each student as a
plant that grows in different ways and produces different fruit. The author uses more figurative language when describing a teacher who effectively differentiates instructions by explaining information in a number of ways as they are using different windows into the same room. MI is further discussed by Goldman and Schmalz (2003). The authors explain all eight types of “smart” and share teaching methods for the different intelligences. In addition, they list professions and occupations that directly relate to each intelligence. For example, individuals who have high interpersonal intelligence are usually networkers, negotiators and teachers. In addition, these individuals have the ability to perceive and respond to the moods, desires and temperaments of others and prefer cooperative and collaborative learning experiences. This article’s strengths included the in-depth yet simple explanations of the multiple intelligences. The descriptions were relatable and I was able to connect personally with the material. These studies are important as they relate to my study’s focus on how a sample of elementary school teachers are teaching to students’ multiple intelligences through differentiated instruction and their perceived impact on students’ performance and engagement.

**Differentiated Instruction**

In comparison to Gardner’s Theory of Multiple Intelligences, differentiated instruction is defined by an expert in the field of education, Tomlinson (2005) as “a philosophy of teaching that is based on the premise that students learn best when their teachers accommodate the differences in their readiness levels, interests and learning profiles” (Subban, 2006, p.940). In addition, Stager’s (2007) study, conducted at an elementary and a middle school, looks at differentiated instruction (DI) as an instructional method that is implemented to meet the unique needs of individual students in a diverse classroom. According to this author, student diversity includes intelligence level, gender, race, socio-economic status, modes of thinking and problem
solving, and language. The purpose of Stager’s (2007) study was to investigate whether the use of differentiated instruction could help increase students’ knowledge and understanding of fractions in math. Effective DI consists of modifying the content of activities, lessons, and experiences, and providing meaningful experiences to cater to individual needs and preferences. It may also include the use of manipulatives, graphic organizers, technology, audio, and visual elements. This study’s findings showed a considerable gain in students’ test scores by using DI and tiered activities. Limitations of the study include factors that jeopardize internal validity such as history, maturation, testing and instrumentation. These sources aid in the development of my study as they offer implications for teaching. In my study, I hope to learn from teachers and contribute strategies so that more teachers feel confident and capable of integrating differentiated instruction in their classroom.

**Theoretical Framework**

**Vygotsky**

One particular study attempts to blend gathered research that supports a shift to modern education in contemporary education encompassing differentiated instruction (DI) and teaching to multiple intelligences. Subban (2006) provides a conceptual framework where various theorists describe elements that closely relate to DI. Differentiated instruction is said to reflect Vygotsky’s socio-cultural theory as students and teachers interact with one another and form meaningful and reciprocal relationships (Subban, 2006). In addition, Vygotsky’s zone of proximal development can also be linked to differentiation as teachers must provide each student with challenging lessons that are slightly in advance of their current level of mastery. Educators must vary their instructional strategies in order to provide each student with the appropriate amount of support and guidance and to suit ability levels (Subban, 2006). As well, a rationale is
provided to support the need for DI as an alternative educational model. Research shows that individuals learn differently and therefore must be provided with opportunities to learn and gather information in a variety of ways (Subban, 2006). Research also shows that although educators are aware of learner variance, few are attempting to accommodate individuals in their classrooms. Standardization and an emphasis on homogeneous groups are still evident in contemporary classrooms (Gable, Hendrickson, Tonelson, and Van Acker, 2000; Guild, 2001). On the other hand, DI is said to increase students’ motivation and engagement as they maintain positive attitudes and are excited to learn (Gable et al., 2000; Guild, 2001).

In evaluating this source’s strengths, several theories, studies and research are described, analyzed, evaluated and compared. The variety and extensive review of sources provides strong points and arguments when examining differentiated instruction. Subban’s (2006) article connects directly to my proposed study as I will be asking teachers what strategies they use to differentiate instruction and how it relates to aspects of Vygotsky’s socio-cultural theory such as scaffolding and the zone of proximal development. Lastly, the author explains that further investigation should look at the impact of DI on educator efficacy, factors that support and hinder teachers in employing DI and MI (time, access to resources, support) and the challenges and strengths that educators’ perceive during the implementation of DI and MI techniques and strategies (Subban, 2006).

**Practical Implications**

**Instructional Strategies and Practices**

Several authors and theorists including Edwards, Carr, and Siegel (2006), Levy (2008), and Stanford (2003), provided practical implications for educators to implement MI and DI in their classroom. One particular study examines a project that explores differentiated instruction
(Edwards, Carr & Siegel, 2006). The participants include teacher candidates, teachers, teacher educators and principals. The study was designed to look at the participants’ use of strategies and techniques to effectively differentiate instruction. This study found that first, participating teachers considered their students’ uniqueness in planning, teaching, evaluating lessons. Teachers then created lessons beginning at the student’s level by practicing Vygotsky’s idea of scaffolding. Scaffolding is also a feature of differentiated instruction as it emphasizes the guiding role of an experienced other and their impact on students’ capabilities of further growth and knowledge through support and suggesting multiple strategies (Edwards, Carr & Siegel, 2006). The study’s authors also investigated the preparation, training, and planning that is required to employ differentiated instruction in the classroom. They found that teacher candidates require more than preaching and lectures from their instructors. Instead, it is important that they have the opportunity to experience DI for themselves, by physically and mentally exploring the processes, benefits and challenges of new methods. They also recommended that teacher candidates and teachers should attend workshops to raise their awareness of the principles and techniques for DI. Teacher candidates, teachers, teacher educators and principals must move away from the status quo by accepting and practicing new strategies to better meet the unique needs of students.

Edwards, Carr and Siegel’s (2006) study provides understanding into educators’ self-efficacy, attitudes toward employing DI, their instructional strategies and their training in using DI. The findings determined that teacher candidates require more intensive training to be able to effectively implement and use techniques and strategies that meet the needs of diverse learners in contemporary schools. This educational approach consists of distinct strategies such as “engaging students through different learning modalities, flexibility in various aspects of the school day, teacher as diagnostician, multiple approaches to all aspects of lessons, student-
centred lessons, combination of whole-class, group, and individual instruction” (Edwards et al., 2006, p.582). The strengths of this source include a thorough literature review, a meaningful discussion and valid results. It is weak in the sense that the sampled population was limited and finite due to the procedures and survey instrument. Edwards, Carr and Siegel’s (2006) article supports my study’s focal point as it helped me to develop relevant and meaningful questions that will be used in my interview protocol. For instance, I will ask my participants to share examples of the types of support they receive in employing MI and DI in their classroom.

Levy (2008) presents practical ways of how to differentiate instruction in regards to content, process, and product in the classroom. She emphasizes the importance of differentiating instruction in order to meet the unique needs of all students and to provide students with an enriched learning environment where they are supported to exceed curriculum expectations. This article discusses an important tool in determining students’ learning styles and preferences. Levy (2008) explains assessment as a tool for understanding individual students’ needs, abilities, interests and strengths. Diagnostic, formative and summative assessments are described as crucial tools in beginning the process of differentiating instruction. This is a relevant source in my field of study as it portrays examples of how teachers are differentiating instruction in the classroom. According to Levy (2008), teachers can differentiate by giving a student more time to finish an assignment, allowing students’ choice in what they read and giving different types of assessments. As well, learning style grouping can be used by separating learner variance into groups where they can demonstrate unique ways to solving the same problem through their preferred style of learning. My study will also be investigating how teachers effectively teach to students’ multiple intelligences through differentiated instruction by providing ample ways for students to connect with material through a variety of modalities.
Multiple Intelligence Theory is explored by Stanford (2003) and strategies to implement MI in the classroom are clearly explained through exemplars and scenarios. For instance, musically inclined students will respond well to teachers who use raps, chants, rhythms and rhymes. Visual/spatial learners would prefer the use of pictures and images during lessons and activities (Stanford, 2003). Multiple assessment alternatives such as observational checklists, videos, portfolios, journals and graphic organizers are also mentioned as key features of the theory.

These articles are important as they relate to my main focus on how teachers are implementing and adapting instructional and assessment strategies for the multiple intelligences. Through interviews, I wish to learn how educators are employing MI in their classroom and how they feel about the perceived impact on students’ learning, motivation and engagement in class. Moreover, I was able to make connections by reflecting on my own pedagogical practices of implementing MI strategies with my own students. For instance, there were several students with high kinesthetic intelligence so I ensured that there was a movement component to each lesson. For example, when introducing new vocabulary, I created a workout where the students were invited to perform a variety of exercises while simultaneously spelling out the new words.

**Implications for Teachers**

Further implications for teachers are identified, described and analyzed by several theorists. Goldman and Schmalz (2003), Shore (2004), and Temur (2007), provide meaningful strategies that educators can employ in their classrooms to better meet the unique needs of individual students. Goldman and Schmalz (2003) clearly describe each intelligence by explaining what people prefer doing and how they prefer learning. The authors share how verbal-linguistic learners respond well to speaking and listening activities such as storytelling,
interviews, reading aloud, as well as group discussions including think, pair, share and buzz groups. Logical-mathematical learners prefer when asked questions that allow them to recall, compare, identify attributes, classify, order, rank or prove something. For these types of learners, teachers should connect mathematical concepts to behavior change and ask learners to do calculations using stimulating games. The authors share that kinaesthetically intelligent people learn through involvement in drama, creative movement, dance, exercise breaks and games such as scavenger hunts or floor games. Visual-spatial learners learn through visual arts activities, anchor charting, concept mapping, pictorial representations of information and board and card games. According to Goldman and Schmalz (2003), musical intelligence learners acquire the most information by making up songs, singing songs, and playing music before, during, or after presentations. Interpersonal intelligence learners enjoy collaborative and cooperative learning experiences. In contrast, learners with intrapersonal intelligence learn best from experiences that allow them to freely express their thoughts and feelings. These activities include self-esteem enhancement activities, goal setting activities, journal writing and self-directed learning. Lastly, naturalistic intelligence learners enjoy classifying games, sorting activities and matching tasks as they are drawn to natural environments and the outdoors (Goldman & Schmalz, 2003).

Teaching to students’ multiple intelligences involves designing activities that are adapted to the multiple intelligence theory, implementing the new activities, and investigating the effects on students’ success in academics. Temur’s (2007) findings show that students are academically more successful and more confident when curricular learning experiences are explained through eight intelligence domains. Specifically, this study investigated a mathematics curriculum that is developed according to MI for grade four students. The results found that MI positively affected these students’ achievement scores as each student actively participated in the lessons, were
thoroughly engaged and more aware of their own strengths and abilities. Temur’s (2007) study relates to my study as I will be interviewing Math and English teachers who place MI as an individual priority in their class in regards to instruction, assessment and evaluation.

Lastly, I examined a case study that looks at two multiple intelligence-based teacher preparation courses and provides implications for MI in regards to teacher education and practices. Shore’s (2004) study is very strong in collecting qualitative and quantitative data as there is an in-depth description and analysis of a multiple intelligence – based graduate-level teacher preparation course. Data is collected through interviews and observations and a case study approach is used. The findings are authentic and meaningful as student dialogue is used to describe the effectiveness of employing MI strategies in the classroom. Students describe feelings of empowerment and express that they are able to show their work and understanding more easily through the use of intelligences. Teacher efficacy is also discussed as an important component in effectively implementing MI techniques and strategies. If teachers do not believe in using multiple intelligences and are not confident in doing so, they will not employ strategies to meet the unique needs of each child. The limitations of this study may include a sampling bias, where the chosen sample may not represent the entire population, and an experimenter bias, where the researcher may treat the participants in a particular and biased manner. This study is particularly relevant to my own study as I would also like to use a case study approach in collecting data by looking at a whole school’s approach to implementing MI. A whole school approach refers to schooling built on MI as Gardner’s theory is used as the framework in developing their educational philosophy.
Differing Perspectives

Supporting the Theories

When collecting relevant literature pertaining to both theories, I found several perspectives both supporting and critiquing the alternative educational models. In Allock and Hulme’s (2010) study, the researchers investigate the use of differentiation to accommodate learner variance in two classes. They discuss the importance of adapting and personalizing teaching and learning techniques to meet the unique needs of individual students and to provide them with appropriate and effective learning experiences (Allock & Hulme, 2010). The purpose of the study is to show an improvement in motivation to learn and engagement through the use of differentiated instruction. In accordance, Stanford (2003) extends an analysis of multiple intelligence (MI) theory and presents three straightforward features of the theory. Stanford (2003) discusses and describes teaching strategies, curricular adaptations, and student assessment that are executed according to MI theory to promote inclusion and equity in the classroom. All eight intelligences are defined in detail and each person has the potential to possess all of them to various degrees. In addition, schools are criticized for putting an overwhelming emphasis on verbal/linguistic and logical/mathematical intelligences and not enough attention on the other six intelligences.

Overall, Multiple Intelligences (MI) is deemed as the most feasible educational practice for the twenty-first century by McFarlane (2011). The author claims that MI is extremely effective in meeting the needs of individual learners as it offers opportunities that can be accessed by every unique and diverse student. Diversity is explained as a representation of students’ languages, ethnicities, cultures, religions, personalities, learning styles, and socialization-backgrounds. In this article, intelligence is defined as an asset of all humans, an
aspect on which individuals may differ, and the ways in which people complete tasks to achieve a desired goal. Several theorists are mentioned including Griggs et al. (2009), social theorist, Sternberg (2004), and Kezar (2001) to support Gardner’s theory which provides strength in determining the validity of McFarlane’s (2011) paper. Specifically, Sternberg (2004) views intelligence as behavior which emerges from individuals’ analytical, creative and practical abilities. His triarchic intelligence theory notionally encompasses all of the eight intelligences defined by Gardner. As well, McFarlane (2011) examines various studies that looked at the way in which multiple intelligence theory is employed in schools. Educators are said to vary instructional, assessment and environmental strategies and techniques in order to effectively engage their students and support their learning.

These authors and researchers aid in the development of my study as they provide several theorists and studies that support the implementation of multiple intelligences in the classroom. As well, they emphasize the importance of effectively employing Gardner’s theory in the twenty-first century as schools and classrooms are more socially, culturally and politically diverse.

**Critiquing the Theories**

Although many theorists and researchers support MI and DI, Davis and Franklin (2004), Klein (1997), Sew (2006), and Pappano (2011) provide arguments that criticize teaching to various learning styles. Allock and Hulme (2010) mentioned Davis and Franklin’s (2004) study explaining that in determining students’ preferred learning styles or favoured intelligence styles, students must complete individual learning style inventories. This method of self-report may provide faulty data as students may not actually be aware of their learning preferences and may give inaccurate responses to inventories. Klein (1997) first introduces multiple intelligence theory as an inspirational educational innovation that employs diverse practices and personalized
programming to match learner variance. The author then goes on to critique the theory, stating that it presents a static view of student competence in regards to the theory of ability. He justifies and explains his critiques through examples and by mentioning other researchers and studies such as Barton, Matthews, Farmer and Belyavin (1995), Liu and Wickens, (1992), and Griffin, Case and Siegler (1994). The article also discusses pedagogical problems pertaining to educators’ abilities in employing strategies and practices based on the theory. Some educators can quickly reference the theory but may be misinterpreting its components. As well, balanced programming and MI theory are harmonious but can function as separate entities. Some other criticisms include an eruption in the work load of educators in planning programs and experiences geared to MI and the weak validity of personal MI inventories that are completed by students. This self-report method is not as reliable for younger students as they may not understand or be able to determine their preferred learning style. This article provides strong points in critiquing Gardner’s theory. On the other hand, the author seems to be biased and does not look at the bigger picture. My study will focus on the how’s and why’s. I will learn about the potential practices and outcomes from MI and differentiated instruction to support individual students’ needs and abilities and to provide meaningful learning experiences in an inclusive setting.

Moreover, Sew’s (2006) short book review critiques the work of Howard Gardner by specifically exploring each of his eight intelligences and determining that they are not separate entities. The author claims that humans possess intelligences that work together and cannot be separated as individual learning styles. As well, the review explains how Gardner’s theory ignored the social influences of one’s environment. When Gardner formed the personal intelligences, he failed to incorporate the social domains and did not discuss socioeconomic
factors, cultural values and societal ideologies. As this review provides only one perspective, it seems to be weak in its criticisms. Other studies portray Gardner’s theory as an effective method for looking at students through a holistic lens. A holistic approach to education involves looking at the physical, social, intellectual, emotional, creative, and spiritual development of every individual. This approach holds students accountable in the learning process and inspires them to overcome barriers in achieving set goals. Students’ intelligences are thus shaped by their social interactions within their environment and they are viewed as unique individuals. This source is relevant to my field of study as it provides a critical perspective that helps me think critically about the strengths and limitations of multiple intelligence theory. My study will look at how teachers employ MI strategies and techniques to effectively meet learner variance. When personalizing instruction, educators must consider a students’ background such as their language, culture, ethnicity, social interactions and personality.

Lastly, the phenomenon of differentiated instruction is critiqued as complex, time-consuming and superficial. According to Pappano (2011), “differentiated instruction has “corrupted both curriculum and effective instruction” by requiring so much of a single classroom teacher” (p.1). Teachers are required to spend time during the day and after school to ensure that all students’ needs are met by employing DI and MI techniques. As DI begins by finding out the diverse learning styles of the students, critics deduce that it is encouraging teachers to sort students and categorize them in ways that may not be effective (Pappano, 2011). In the article, Tomlinson’s DI approach is said to be a misinterpretation of Gardner’s theory of MI. In addition, the author explains how instruction is misguided when students are given ample choice in how they present or perform their understanding (Pappano, 2011). Students do not like when their classmate’s papers look different as assessment and summative tasks are differentiated. Bluntly,
in today’s society, students are required to make important choices as they continue through high school and post-secondary education. As well, when students are given choices, they are more motivated and engaged in learning and teaching (Gable et. Al, 2000). Thus, differentiation matters and effective high quality educators will take the time and effort to support every student in their class by using flexible grouping, offering choices and using MI to instruct and assess student learning.

After reviewing relevant literature pertaining to the alternative educational models of multiple intelligence theory and differentiation, I was able to gain insight into the models’ theoretical framework, gather implications for teachers, and reflect on differing perspectives that support and criticize the theories. My study will examine a whole school’s approach to teaching and learning, where MI and DI are at the forefront of the school’s educational philosophy. Specifically, my study will explore how a sample of private elementary school teachers teach to students’ multiple intelligences through differentiated instruction. My research study will also reveal their perceived impact on students’ performance and engagement. The discussion will entail more specific strategies to help educators employ MI and DI confidently in contemporary classrooms by describing the success criteria and behavior of students’ performance, motivation and engagement. It will explain how educators will know if they are successfully and effectively implementing MI and DI to promote inclusion and diversity.
Chapter 3: METHODOLOGY

Procedure

The proposed qualitative research study provides rich and insightful results as the dynamic nature of interviews were employed allowing many opportunities to probe, observe, document and interpret non-verbal communication. I investigated multiple intelligence theory and differentiated instruction in regards to teaching and learning in the twenty-first century. I conducted a qualitative study which embodies several characteristics of a case study. My research was conducted within a real-life, contemporary context as I examined a whole school’s educational philosophy and approach to teaching and learning. It involved a small group of teachers, specifically recruited as they are committed to the implementation of MI and DI in their classrooms. The study resembles an instrumental case as my intent was to investigate a specific issue (MI and DI) by selecting a case school that best addresses the topic (Creswell, 2013).

In this research, I reviewed relevant literature that made reference to both models in regards to instructional strategies, assessment techniques and students’ academic success and motivation to learn. I conducted face-to-face, semi-structured interviews with three experienced teachers. I hoped to learn how they have effectively integrated multiple intelligences and differentiated instruction in their classrooms as well as their perceived impacts on students’ learning and performance.

Instruments of Data Collection

Informal, semi-structured interviews were used as data instrumentation as they are flexible and allow more open expression of answers. As the interviews were not completely pre-scripted, base questions were employed, allowing for optional follow-up questions and probing (Frankfort-Nachmias & Nachmias, 2007). Ann Oakley (2005) discusses the benefits of using
interviews to obtain detailed observations, facts and information. “Interviewing is rather like marriage: everybody knows what it is, an awful lot of people do it, and yet behind each closed front door there is a world of secrets” (Oakley, 2005, p. 217). The credibility and validity of conducting interviews allows the researcher to gather data in a meaningful manner. In this study, teachers’ voices are privileged as they have the opportunity to share personal stories, values, ideas and observations related to the primary research questions.

I developed an interview protocol that focuses on questions pertinent to teaching to students’ multiple intelligences (MI) through differentiated instructions (DI) and the perceived impact on students’ motivation, performance and engagement. Questions were designed to generate details about how teachers employ MI and DI techniques, strategies and methods. As well, teachers were asked a variety of ‘how’ questions when sharing strategies and success indicators. Interview questions are included in Appendix B.

**Participants**

Several factors were considered when creating the participant criteria that was used for sample teachers. For this research study, three private elementary school teachers were interviewed. I selected teachers from various curricular areas and grade levels such the head of the school, a Science and Visual Arts Junior teacher and a general studies Primary teacher. The chosen sample was experienced teachers who differentiate instruction effectively and confidently. They have between seven to ten years of experience working at this particular private school whose philosophy of education prioritizes multiple intelligences and differentiated instructions. The teachers are committed to the educational significance of MI and DI and have attended training, conferences and professional development courses pertinent to both models of education. The participants fit this criteria in order to obtain the most relevant and effective
instructional strategies regarding multiple intelligences and differentiated instruction. Research shows that teacher experience matters in various ways. According to Ladd (2013), teachers excel as they gain experience and the greater effectiveness of experienced teachers in increasing student achievement is evident for elementary, middle, and high schools alike.

I recruited the participants by visiting the school and explaining my proposed study. As a former student from the elementary school, I knew several teachers which aided in their eagerness and willingness to participate and be involved in my study.

**Data Collection and Analysis**

In qualitative research, data analysis entails several steps in organizing and preparing the collected data for study. First, the data must be transformed into a text document such as a transcript. Then, the data can be reduced into themes by coding, summarizing and grouping the codes. Finally, the data can be represented in a condensed table, organized into themes and subsidiary themes (Creswell, 2013). When analyzing the data, I remained unbiased which was difficult as I was interpreting data based on insights and first impressions. I was unable to employ the case study method of using categorical combination to create themes through direct interpretations and generalizations. Instead, I used the phenomenological process by developing significant codes and grouping statements into themes and subsidiary themes based on the essence of the phenomenon, the theory of Multiple Intelligences and Differentiated Instruction (Creswell, 2013).

The coding process encompassed a specific and complex process that took over several days to complete. Through the entire process, I remained open-minded and non-judgmental. Firstly, I read the transcript by quickly browsing through it as a whole. With a pencil, I made little notes about my first impression. I then left the transcript for a few days in order to come
back to it with fresh eyes. I then read the transcript again, this time, labelling relevant pieces such as words, phrases and sections. I highlighted words and phrases that were repeated in several places, that surprised me, and that the interviewee stressed as important. As well, I labelled phrases that I had previously read about in relevant literature that specifically reminded me of a certain theory or concept (Creswell, 2013). After labelling and coding the entire transcript, I decided which codes were most important and created categories by bringing several codes together to form themes. Lastly, I labelled these categories or themes and decided which was most relevant pertaining to my study and research questions. Five overarching themes that emerged from the interviews include: (a) strategies and techniques in employing MI and DI; (b) perceived impact on students’ learning; (c) teacher efficacy and beliefs; (d) supports teachers receive; and (e) challenges teachers face. Throughout this coding procedure, I gained new educational insights that stemmed from the perspective of the participant and was able to form my own interpretations of the data.

**Ethical Review Procedures**

I followed the ethical review approval procedures for the Master of Teaching program. I obtained informed consent from each teacher to participate in the study and they had the option of withdrawing from the study at any time. Teachers were given a consent letter that explained the purpose of the study (see Appendix A). As well, they can request a copy of the transcripts after the interview and may add, revise, or edit the document. Participants and the name of the school remained anonymous as pseudonyms were used. Specific to my study, I could predict that my previous relationships with the teachers as a former student could be an ethical issue. I recognized that this may pose a threat to validity of the study.
Limitations

There were several limitations of the methodology of this research such as the instrumentation, participant criteria, and data analysis procedure. Firstly, the study is limited as only non-quantifiable qualitative data will be collected. Secondly, due to the tight time frame and restraints of only interviewing three teachers, the research may not be accurate and reflective of the educational system. Another limitation could include opportunistic sampling as the school was chosen because I have previous connections and have already formed relationships with the school and faculty. As well, collecting quality data may be a struggle as only interviews may be employed. Observations, rating scales and questionnaires would have added to the validity of the study. Personally, I may experience an internal struggle as I may not learn as much as I wish to absorb about multiple intelligences and differentiated instruction. Lastly, the disadvantages of personal interviews include an interview bias resulting from the flexibility of face-to-face interviews, ultimately allowing for the interviewer’s personal influence and bias. Also, there is a lack of anonymity as the interviewer knows all of the potential respondents (Frankfort-Nachmias & Nachmias, 2007).

Strengths

Although limitations are present, the methodology of this research poses various strengths. Firstly, there are a number of benefits associated with conducting interviews. I was able to privilege teachers’ voices through the power of dialogue as well as gain data through non-verbal communication. Also, semi-structured interviews are less rigid and allow for more open expression of answers. Base questions were used and due to the flexibility of interviews, follow-up questions and probing were employed. There is a high response rate when using interviews as data collection instrumentation. People who have difficulties reading or writing, or who do not
understand the language well benefit from face-to-face interviews. I was able to collect supplementary information such as background information about the respondents’ personal characteristics and environment (Frankfort-Nachmias & Nachmias, 2007). This aided in the interpretation of data and results. Lastly, I pilot tested the interview protocol on family and friends who are experienced elementary private school teachers. This helped to identify poorly worded questions and questions that can be misunderstood. It also helped me become more familiar with the questions and more comfortable conducting personal interviews.
Chapter 4: FINDINGS

In this chapter, I report the findings and data that were gathered from three face-to-face, semi-structured interviews with experienced teachers. The participants are current educators at THS private school, with over ten years of teaching experience. I interviewed the head of the school, a junior-high teacher and a general studies, primary teacher. These teachers consistently prioritize MI and DI in the classroom and are committed to the educational significance of both theories. They offer a vast amount of practical strategies in effectively employing MI and DI in the classroom. All three participants seem to be very passionate and dedicated to the whole school’s approach to teaching and learning. Thus, the presented findings could inform educators in how to confidently integrate differentiated instruction and multiple intelligences in increasingly diverse and contemporary classrooms.

Five overarching themes that emerged from the interviews in this study include: (a) strategies and techniques in employing MI and DI; (b) perceived impact on students’ learning; (c) teacher efficacy and beliefs; (d) supports teachers receive; and (e) challenges teachers face. Moreover, two to three subsidiary themes exist within each theme, helping to present the data in a concise and organized manner. Excerpts from teachers are included and pseudonyms will be used to maintain privacy and confidentiality. The three experienced teachers that were interviewed are Harry (Participant A), Sara (Participant B) and Bill (Participant C).

Strategies and Techniques in Employing MI and DI

The theme strategies and techniques in employing MI and DI is presented first in the findings as practical strategies are paramount in the development of high quality, competent educators. The strategies revealed can be interpreted, adapted and modified to fit the needs of
teachers’ own classrooms. The participants’ suggestions and techniques are further categorized into direct instruction, grouping and assessment.

**Direct Instruction**

At THS private school, the teachers access MI through an arts-based, integrated approach to learning. A variety of intelligences are combined in creative ways throughout a typical day, and in turn, students’ unique needs are met and their support is individualized. Generally, the main way that teachers integrate MI is by doing a lot of interdisciplinary work such as “bringing art into science, science into art, music into math, and dance into religious studies” (Participant A). Specifically, Harry described a particular lesson where MI is used as an entry point to learning.

A lesson would start with the teacher acting out a story so the kids would kind of get a sense where the story is at. Then there might be some artwork of some renditions of the story. The kids would look at the work and you would ask them: What do you see? What do you think is going on? So they would get another take on the story. Then the kids will learn some key words that they will internalize through kinesthetic, a series of movement activities. Then the kids will listen to the teacher read the story and look for key words, and only then will they kind of actually open up the text and try and start to read it.

(Participant A)

Additionally, Sara described a strategy of bringing in multiple intelligences into one activity or throughout the day and trying to always have a visual and written component to every lesson. She explained how this technique may not always be feasible as the goal for some lessons may be to strengthen a single skill. For example, during art lessons, she will only access one entry point or framework as she values the lesson of teaching a particular skill. Yet in other lessons,
she will provide different performances of understanding, different ways to show what the students have learned, through writing, numbers, songs or dances. She stated, “So, as you can see, there’s a balance between allowing students to enter through their own strengths but also strengthening all the intelligences” (Participant B). Lastly, Sara clearly described a direct instructional technique where a mini lesson is implemented on the carpet to introduce the general topic and then students break off into small groups or individually, where they would then receive individualized one-on-one instructions through mini conversations and conferences. The teacher would scaffold their learning and lead them to where their next steps should be.

The third participant, Bill, provided similar instructional strategies that are catered more to the junior level. He talked about providing many opportunities to understand an idea in different ways by offering students various entry points such as philosophical, mathematical and logical. As teachers, we must engage students in understanding that there are other ways to look at things. In order to do so,

we need to try to have students to do reflections on what works really well for them, what they connect deeply with, and for teachers, to step outside of their own intelligence framework and be able to understand that if a student is really strong in language, words and narrative, and the teacher is really strong with visual arts, as a teacher, it’s our responsibility to step out of our own box to meet students where they are. (Participant C)

Moreover, direct instruction involves the use of questioning and probing, and also framing that experiences and objects have pathways (MI) and some of those pathways to understanding them are better to use at certain times for certain purposes (Participant C). Bill goes on to explain the technique of effective questioning by providing an example of embarking on a field trip to the local museum.
If you go to a museum and you have a skull, someone who approaches it from a logical framework will want to know factual questions: where did it come from? How old is it? How do you know what species it came from? And someone from an aesthetic approach will say: Why do skeletons and mortality scare us in some cultures? (Participant C)

Finally, Bill mentions a technique where you use backwards design in planning a lesson in the course of a forty-five minute period. You must consciously think about: “how many different kinds of experiences can you offer the students and how much of the period are they listening or reading information versus how much are they using it, putting it out, and trying it” (Participant C). All three participants expressed how it is difficult to remember to incorporate MI into every lesson, but a simple way is to reframe the instructions of the lesson by providing a variety of modalities, such as written, verbal and visual.

**Grouping**

Another strategy in effectively employing MI and DI in the classroom is setting up the environment into centres, stations and groups. Specifically for DI, the teachers at THS private school are trained in how to do small group, that is, “how to have one group of kids working on one project or level and how to have another group working on the same kind of things, but in different ways” (Participant A). The participants explained the value of cooperative learning and group work, by breaking students up into heterogeneous or homogeneous skill groups. It is easier to differentiate instruction to small groups than to each individual student for certain lessons and activities. For example, Sara explained a strategy where students have their own folders with different work in it. This folder system can be applied to small group learning, working stations and game centres.
In reading and math, there are a lot of games set up for students that are at the same level, so there is a lot of different station work. On games day, students have the choice to go to different areas of the class, and only I’ll know the ability level of each station. (Participant B)

This method is often used in terms of logistics and the way a class works. Additionally, mini lessons can be taught to large groups, and then students may break off into smaller groups or partner work, where the teacher can confer with them and have short conversations about next steps and what they are doing. Grouping is an effective technique that allows opportunities for choice. Bill explained how when discussing a group assignment, students may break off into groups based on MI preferences. “For example, one group chose to perform their understanding through dance, while another group created a sculpture” (Participant C). Instructions and assessments can then be differentiated based on grouping and how students choose to output information.

Assessment

The final strategies are crucial in effectively carrying out direct instruction and using MI and DI in the classroom. Assessment is paramount in knowing where students are at academically, socially and emotionally. The participants emphasized the use of assessment techniques throughout daily routines and lessons. They use informal observations, performances of understanding and anecdotal records. All of these strategies are components of authentic assessment as students can demonstrate their understanding in a variety of differentiated ways and teachers are able to see their students as a whole.

Through informal observations, Sara and Bill both take the time in the very beginning of the year, to get to know their students on a whole, as social-emotional beings. They find out their
interests, how they learn, their strengths, needs and hobbies. Academically, “when you present the generative topics in different ways, you can see, through observations and anecdotal notes, which students gravitate to different subjects and different disciplines” (Participant B). In addition, when you teach a topic through MI, you can visually see who is excited about the different modalities, and who refuses to participate.

Sara talked about how assessments and anecdotal records are ongoing processes. She uses an effective technique that works for her and other teachers at the school.

I usually have a sheet with everyone’s name on it, a room at a glance, just little notes. I constantly look over them, and I write them in all subjects. And I often will look over notes over the course of a week and compile them into small paragraphs. I have a binder and it’s an easy way of doing it. Even though it’s a lot of writing throughout the day, I have a binder with dividers. Each student has a divider and you just write down key words. It allows you to see trends. It’s really looking at the whole child. Ongoing notes is easier, you don’t have to plan a time for it. You notice things and write them down immediately.

(Participant B)

This strategy can definitely be used by any teacher in any classroom. It is an authentic way of assessing the whole learner in an objective and un-biased manner.

Finally, all three participants emphasized the school’s philosophy of project-based and performance-based assessment. There is a lot of MI at the entry points as well as the performance of understanding point (Participant A). Students perform their understanding by presenting a play, creating songs, dancing and moving.

We do novel study plays. It’s an arts-based MI way of assessing kids’ understanding of a novel rather than just giving them comprehension questions. So they write a script, do
character studies through writing letters, bring in artefacts, and create little character boxes.

(Participant A)

Bill explained how MI and DI are about offering students the opportunity to choose a way of showing what they know based on their own strengths and interests. For example, there was a project where he asked the students to take a basic factual text and then rework it to show an aesthetic model of the text. Most students created this through sculptures or paintings. One student, who was into graphic novels, wanted to incorporate his strengths in writing and drawing to create the project as a graphic novel. As assessments are authentic, the student was encouraged to explore the project in any way he chose and was assessed on his own performance of understanding.

**Perceived Impact on Students’ Learning**

Within the theme of *perceived impact on students’ learning*, participants share objective and subjective observations of how they believe MI and DI affect students’ overall learning. Specifically, data is organized into subsidiary themes which include students’ *engagement* and *motivation*. It must be noted that quantifiable data is not considered or discussed as merely qualitative findings are obtained.

**Engagement**

The three participants were very passionate about the impact MI and DI has on students’ learning. Generally, it allows students freedom for creativity and curiosity as direct instruction, lessons, and projects are much more interesting. It also really helps to build an understanding about where the students are coming from. Several factors influence students’ engagement such as the physical materials, the freedom to explore, and the relationship between teacher and student. “Instead of opening their brains and pouring information in, it forces you into showing,
giving examples, being interactive, and being hands-on. It gets students excited because often the lessons include really interesting artifacts” (Participant B). Sara gave an example of using hands-on manipulatives in Science class. She provided magnifying glasses, lab coats, and natural materials. Children are engaged when they are presented with meaningful and interesting materials. They are naturally curious beings and like to explore things with all of their senses. Sara put it simply, “it’s easier than cutting out fifty leaves from construction paper. Just go outside, get fifty leaves, and it will be way more meaningful and stimulating” (Participant B).

Harry also emphasized project-based, inquiry-based and performance-based learning as a way of incorporating MI and DI in the classroom. Students are perceived to be engaged because there is a purpose. They have something to look forward to as lessons are carefully and thoughtfully planned out and are reflective of the students’ learning styles.

It’s much more interesting to put on a play based on a novel than to write a bunch of answers to comprehension questions. I think it’s also more dynamic, you’re not sitting in your chair all day staring at a blackboard. There is a lot more movement and interaction. There’s nothing worse than sitting for eight hours a day. (Participant A)

When planning lessons, participants think about how they would feel if they were restricted to desks and were discouraged from being creative and curious. It is in our nature to explore and to activate our five senses throughout the day.

Lastly, as a teacher, you are allowing your students to be able to use their strengths, and in turn, they feel more successful, more confident and are engaged (Participant C). Bill was able to empathize with his students and really consider their perspective of learning and teaching.

If a student sees a teacher actively trying to modify what they are doing based on their understanding of the student as a person, making those accommodations strengthen the
relationship between a teacher and a student. It shows an awareness that the teacher knows enough about the student to know how they’ll best be able to do something.

(Participant C)

Engaging students involves not only forming strong, meaningful relationships with your students, but providing stimulating and interesting activities that are hands-on, interactive and natural.

**Motivation**

The participants discussed the benefits of MI and DI on students’ motivation to learn and to come to school every day. On the whole, the students are perceived to be happier, engaged and excited to attend classes on a daily basis (Participant A). Their desire and interest to learn is heightened when they feel that their learning needs and interests are being met. Sara made reference to her First Grade students. She explained how they are intrinsically motivated to work and complete daily tasks and activities. This means that there are no external rewards such as extra recess or a treat. Extrinsic motivation also occurs when students want a certain grade and only complete an assignment to receive the reward, or high grade. MI and DI help students to be intrinsically motivated.

Bill explained how there are less behaviour management issues and students enjoy completing projects and performing their understanding. As well, students stay on task as instruction and assignments are differentiated, motivating them to complete the assignments in the allotted time. MI allows you, as a teacher, to get diverse responses in students’ work. Students are more motivated as they are choosing their preferred modality or style. Finally, Bill explained “DI is changing the actual assignment, letting students deal with a task totally verbally, having a conversation instead of doing it through a written response. This motivates students
because you are removing unnecessary barriers for some students” (Participant C). MI and DI truly promote inclusiveness and equity in the classroom as students get what they need to succeed.

**Teacher Efficacy and Beliefs**

The theme *teacher efficacy and beliefs* refers to teachers’ own beliefs about their teaching abilities, confidence and value in the classroom and school community. Teacher efficacy correlates with instructional strategies and techniques. If teachers do not believe in using MI and DI and are not confident in doing so, they will not employ effective strategies to meet the unique needs of each child. The subsidiary themes, *educational philosophy* and *personal experience* directly impact and influence teacher efficacy and attitude.

**Educational Philosophy**

THS private school’s philosophy and the participants’ personal philosophies influence the way in which the curriculum is taught and their confidence in effectively employing MI and DI in the classroom. Teachers’ instruction, strategies, assessment techniques and environmental setup are directly influenced by their beliefs, values and attitudes. As this study looks at a whole school’s approach to teaching and learning, the school philosophy must closely align with the participants’ own philosophies of education. Each participant described the school’s philosophy in a similar and detailed manner. THS private school has three founding principles. Firstly, it is a pluralistic Jewish Day School and Jewish values are integrated into teaching. “We authentically integrate Jewish values without it contradicting an academic approach to looking at the world” (Participant C). Educationally, it is constructivist and is based on the idea that students construct their own learning and put together their own knowledge (Participant A). “At this school, we believe that your ability to understand something is really demonstrated at its highest level when
you can take those concepts and do something creative with them” (Participant B). As well, there is a lot of art-based, project-based, inquiry-based learning. This arts integration lens really enhances Gardiner’s theory of MI and it allows for differentiated instruction and assessment. The third founding principle is about environmental ethics. In every grade, students will encounter at least one unit where environmental thinking is really an essential part of the unit (Participant C). The participants expressed that the way students approach the natural world and the environment is indicative of the way they will treat other people because they all are interrelated.

The personal philosophies of the participants all spoke to the importance of MI, DI, integration and interdisciplinary work. They explained the importance of a holistic approach to understanding the students and ensuring that they understand, feel confident, and can explore new activities creatively. Harry really emphasized the idea of curiosity and giving students the freedom to interpret activities and the real world. “MI is like a door to freedom, creativity and curiosity. It has always made sense to me as an educator. Of course we are going to teach that way” (Participant A).

Sara stressed the importance of accepting all students and celebrating differences by giving students an opportunity to voice who they are in the classroom. “So just because its Grade One, doesn’t mean you don’t need to be aware of the emotional, social, all levels of the students’ development at all times. And know who’s who in the classroom” (Participant B). MI and DI are at the core of her philosophy as she truly values teaching everyone at their own level and providing different entry points.

Lastly, Bill highlighted the significance of helping students understand how teaching and learning relationships will have different responsibilities. “I want students to become independent learners. That means teaching them self-advocacy skills, how we ask analytical
questions and giving students agency” (Participant C). At THS private school, students are supported in asking critical questions and allotted choices and opportunities to question their learning and assignments. There is a balance of power in the classroom that is carried out through MI and DI. Student differences are embraced, differentiated instruction is employed, and students have the freedom to access material through multiple intelligences.

**Personal Experience**

In addition to teachers’ values, attitudes and beliefs, their style of teaching, confidence and effectiveness is related to the quantity and quality of teaching experiences and their educational background. Core beliefs and internalized techniques are grounded in experience and theories gained from post-secondary education. Each participant has over ten years of teaching experience and they are Ontario Certified Teachers. I will provide a brief summary of their background information as their educational and teaching experiences shape their identity as teachers. All of the participants exuded confidence and passion when discussing MI, DI and their students’ learning. It was clear that they are lifelong learners who are proud to be effective and experienced educators.

Harry graduated from teachers’ college in 1996 with specialties in high school English and History. His first job was at THS private school, seventeen years ago. He has taught everything from Grade Three to Grade Eight, and every subject except for Visual Arts and French. His favourite subjects to teach are Math, Science, Torah and Talmud (Religious Studies). Before THS, he taught at an afternoon school and taught for a literacy organization called Frontier College. He also taught English in a little village in Indonesia. When asked about specific MI training, Harry spoke about training with Howard Gardner and Project Zero at Harvard. It was described as a week long, summer intensive session. It was little workshops with
a bunch of people that were researching aspects of MI. He explained, “It was very significant for me as an educator. It really changed my view of how we teach and the importance of using visual cues, sound, movement and kinesthetic” (Participant A).

Sara went to teachers’ college at York University and became a teacher eleven years ago. She had already been at THS private school since 2000 as the principal’s assistant. In her personal life, she teaches art classes and programs to children outside of school. She started teaching at THS in 2003 because she really liked the energy of the school. “It was very friendly and the parents were such a close community” (Participant C).

Bill graduated from teachers’ college in 2001. He has a foundation in art as he also graduated from OCAD. In his personal life, he did a little bit of work with supplementary schools and including students with learning exceptionalities. He has a lot of teaching experience with Hillel and summer camp. After teachers’ college, he started at THS seven years ago. He teaches Science in Junior High, Visual Arts in Junior High, and helps run the environmental program for the school as well as the school garden. He explained that throughout his teaching career, “MI has informed my thinking. I really do find that I try to prioritize students being aware of how they are thinking and steps they are taking and assessing their own learning process” (Participant C).

**Support Teachers Receive**

In effectively employing MI and DI in the classroom, one must investigate the *support teachers receive*. In the school community, three factors were revealed as highly important and necessary. The subsidiary themes include *internal staff training, collaboration* and *resources*. 
Internal Staff Training

Harry, the head of the school, talked about internal staff training as an important aspect of their program.

The biggest thing that we do to be successful is internal staff training. We have a lot of opportunities for teachers to meet with each other. If you’re going to do interdisciplinary work especially in higher grades where they have a different teacher for Math and a different teacher for Science, the teachers have to be able to talk to each other. (Participant A)

Sara also spoke about having allotted time and training sessions at the school where all the teachers sit together, run through ideas, thoughts, look over lessons and offer advice or different strategies. For first year teachers, there are also meetings with Harry, and the curriculum director once a week, called “New Teachers Academy” (Participant B). Two times a week, they go over in depth, the philosophy of the school and what is meant by arts-based education. Some teachers misconstrue that this requires extra arts and crafts. Also, strategies and techniques are clarified and modelled at these individualized meetings. Lastly, in regards to differentiated instruction, Harry explained training sessions where they learn how to do small group work, how to have one group of students working on one project or level and another group working on the same kind of things, but in different ways (Participant A). Internal staff training is effective and cost efficient as experienced educators are training their fellow colleagues by sharing strategies and techniques.

Collaboration

The participants emphasized collaboration as paramount in supporting the effective use of MI and DI in the classroom. Ongoing collaboration includes ongoing reworking of units, and
ongoing thinking about what the topic is really all about (Participant A). Teachers at THS private school communicate and collaborate in order to do integration well and look at topics across all subjects in meaningful ways. When asked about workshops and professional development courses, Harry, the head of school, alluded,

I find that one off workshops and PD of that type tends to be a little bit inspiring but overall doesn’t take you very far. This kind of work, like really good interdisciplinary MI work, just takes a lot of ongoing work, on the part of teachers. (Participant A)

Similarly, Sara continued to elaborate about how she was grateful for having team meetings that are embedded in the teachers’ daily schedules. It is a helpful support system where teachers share ideas about new ways of doing things, and provide descriptive and constructive feedback to one another (Participant B). Finally, Bill discussed teams that are broken up by grade. There are four to five teachers in each team and the division of work really enables each teacher to be more creative and implicit with their own subject.

We have some teachers that have been here forever, having the founders around, offering advice and expertise, and running ideas off of them. It’s a really helpful tool. I know teachers that just come in and don’t understand integration and interdisciplinary work, lesson planning and curriculum planning; it’s great to have experienced teachers around. (Participant C)

**Resources**

The participants mentioned and briefly discussed a few more resources that support their use of MI and DI in the school. Firstly, as it is a private school, the ratios a lower. Teachers can quickly and easily see where students are at and meet their needs at different levels. Low student to teacher ratio is a big factor in employing DI and teaching to MI (Participant C). In addition,
the teachers’ time schedule supports them in a lot of interesting ways. As previously discussed, teachers come together often to discuss common topics and ways to integrate MI into the curriculum. As a final resource, the curriculum that is implemented at THS private school already includes integration.

It has been written in a way that already suggests different ways for tasks to be accomplished or different ways to assess students’ understanding. The units are already set up to allow choice and students to perform their understanding in different ways. Often there’s a project, art work, a play or a dance. The curriculum structure itself, offers students three or four ways of demonstrating their understanding. (Participant C)

**Challenges Teachers Face**

As with any phenomenon or theory, it is important to also consider the challenges teachers face. The factors that hinder or challenge teachers in employing MI and DI in the classroom are ‘superficiality and complexity’, staff efficacy and resources. These subsidiary themes emerged from the interviews and were emphasized as being only some of the challenges.

‘Superficiality and Complexity’

MI and DI are complex in their implementation and employment. It is easy to learn about a theory and to attempt to apply it in your classroom. What is difficult is truly connecting with the theory, applying strategies, and learning through trial and error. According to Harry, the biggest challenge with MI and DI early on is superficiality that can sometimes emerge. At THS private school, the teachers have surpassed this. For example, it is “when you are trying to teach your spelling words in six different ways. That is not the purpose of MI” (Participant A). Bill also attested to the superficial way of implementing MI by quickly finding images to add to a lesson or a song to connect to the topic. “The challenge is making it meaningful and relevant”
Another challenge is that it is complex. Using MI and DI requires a lot more planning time and more thinking about how things are going to be assessed and how they are going to be delivered. Teachers need a lot of time for planning and a lot of time for assessing.

You can’t just take a book and imagine that everyone is going to read the page in the same way and they’re all going to get it. As well, teaching the same content in multiple ways in a time efficient manner is really pretty challenging and complex. I think musical intelligence is the hardest to incorporate because we don’t think before a lesson, do I know a song that talks about this? Or a song that highlights the essential questions of the topic? (Participant C)

Harry explained that it is a lot easier to give students a workbook, choose a page, a handful of questions, give the answers, and take up the students work. “That’s so much easier than trying to figure out how to do project-based learning where subjects are meaningfully integrated in the garden” (Participant A). Sara also mentioned that it is more challenging to really solidify the foundation of skills by incorporating MI through DI. Sometimes DI is great in theory, but “it takes a very well organized, thoughtful, intelligent teacher to do it well” (Participant B). The participants described how sometimes DI can often not be done well and can bring the whole level of the class down. It is not easy to teach everyone at their own level. Lastly, time management can be challenging and complex. “It is the most important thing of teaching and yet the most challenging thing” (Participant B). For instance, wanting to incorporate several intelligences in a lesson but really only having the time to do one or two. As individual teachers, you must create a balance and really work on your time management skills.


Staff Efficacy

The other challenge is looking at teachers’ own abilities and comfort levels. The head of the school, Harry, indicated that for the most part, he only hires teachers that want to use MI and DI and can do so effectively and confidently. It really comes down to teachers’ self-efficacy.

Sometimes you say to the teachers, “we really want you to get the kids up and moving”, and they’ll say that the kids don’t like to do it. It turns out that it’s not the kids that don’t like to do it! It’s that they, the teachers don’t want to do it! So I think that’s part of it, just getting teachers comfortable with it. (Participant A)

It is true that teachers get intimidated by MI and DI as it is complex. You must use backwards design and really plan out the day and each lesson. You must be prepared, put in effort and be confident and competent in doing so.

Like really going through your lessons with a fine tooth comb is important. In that kind of challenge, it’s important to have people who have been here for a long time. This year I’m mentoring a first year teacher and you really see the value in mentorship and collaboration. If teachers are not confident and aware of their own framework, it is hard for them to implement MI and DI in the classroom because they are second guessing themselves and their students. This is why it is important to have all of the supports, training and resources.

Resources

The other challenges that teachers face include time, effort and budget. “Internal staff training and team meetings can be very expensive because the most expensive thing is teachers’ time” (Participant A). As well, most MI lessons require a lot of hands-on materials, fore thought, and a lot of steps in the classes. Teachers must have everything ready and access to resources.
When the lesson comes, and you’re not ready with your materials and planning, it will not go smoothly. The worst thing that can happen is dead air time in the class, and then you lost your students’ attention. Everything you built until then is done in two seconds.

(Participant B)

This requires finding the time to really be committed to the whole process and philosophy. Not everyone wants to stay late after school or bring work home with them (Participant C). It is challenging to find the time to think about all of the aspects in planning and implementing.

Finally, if you do not receive a budget, you are less likely to go out and spend your own time and money on classroom materials and resources. This does not mean that to employ MI and DI you need a lot of money and high-quality resources. Without a budget, your creativity can be stifled and you may feel discouraged and uninterested in providing meaningful, interesting and engaging lessons and materials.
Chapter 5: DISCUSSION

Implications

Within the five overarching themes of Strategies and Techniques in Employing MI and DI, Perceived Impact on Students’ Learning, Teacher Efficacy and Beliefs, Supports Teachers Receive and Challenges Teachers Face, there is substantial data to support the phenomena of multiple intelligence and differentiated instruction as inclusive and equitable approaches to teaching and learning in the twenty-first century. These educational models ensure that every child can and will succeed in the classroom as their diverse needs are consistently and effectively being met. The reviewed literature and conducted interviews both suggest a variety of diverse strategies and techniques in employing MI and DI seamlessly in the classroom. More practical strategies were identified and explained in the findings as experienced teachers shared their knowledge and expertise in teaching and learning with unique students. More specifically, the curriculum, the classroom, the teacher and the student are all influenced by MI and DI and benefit in a variety of ways.

The Curriculum

All three participants identified and explained how MI and DI impact the curriculum. Even though teachers must use the Ontario Ministry of Education guidelines, the government documents provide merely suggestions in meeting overall and specific expectations. At a school where MI is at the foundation of their philosophy of education, the ways in which topics and concepts are delivered and assessed is very flexible, adaptable and emerge from student interests, strengths and needs. As well, there is an emphasis on integration and an arts-based, project-based, inquiry-based approach to learning through authentic, meaningful and engaging experiences. According to Temur (2007), students are academically more successful and more
confident when curricular learning experiences are explained through eight intelligence domains. Students are given ample opportunities to explore concepts and topics through movement, visuals, songs, plays and poems. The curriculum can be influenced by MI and DI and can be reflective of the diverse students in each class. Through MI and DI, there is flexibility in various parts of the school day, students are engaged through different modalities, lessons are student-centred, and flexible grouping is used as teachers approach lessons and evaluations in multiple ways and settings (Edwards, Carr, & Siegel 2006).

The Classroom

The literature and participants stressed the importance of having a rich classroom environment that is conducive to learning for all students. The MI classroom is organized, flexible, positive and safe. Natural materials and meaningful artifacts are available and centres are set up to promote student choice and independence. As well, flexible grouping is used daily to individualize learning through whole group instruction, homogeneous or heterogeneous small group activities, partner work and independent work. The classroom displays are reflective of the diverse students’ cultures, families, backgrounds and values. MI and DI strategies are used consistently and effectively which help teachers in meeting each students’ needs by ensuring flexibility in what they teach, how they teach it, and how students demonstrate what they have learned (Levy, 2008). Vygotsky’s socio-cultural is emphasized as the classroom is equitable, diverse and inclusive and the student-teacher relationship is reciprocal as each member is valued and respected (Subban, 2006). Lastly, the classroom is not limited to the indoor space. Learning and teaching can occur outside of the classroom in nature and teachers can plan meaningful field trips to extend and enhance learning and understanding (Goldman & Schmalz, 2003).
The Teacher

The findings from this study verify the role of the teacher as the key in effectively and willingly employing MI and DI in the classroom. In a MI classroom, the teacher frequently changes methods of presentation and may combine intelligences in creative ways. The teacher is committed to student success and prioritizes MI and DI. Teachers also use varied teaching strategies, expanded curricula, and authentic assessment (Stanford, 2003). As discussed in the interviews, the experienced teacher carefully plans, implements and reflects on their practice. They are hard-working, confident, flexible and a lifelong learner. According to Shore (2004), teachers who lack confidence and do not value or believe in MI and DI, will not employ strategies to meet the unique needs of each child. To gain confidence and experience, the teacher is involved in team meetings and collaborates with professionals and colleagues. As well, it is important that a teacher’s core values and beliefs reflect the school’s own philosophy of education.

Moreover, the teacher promotes equity, diversity and inclusion by catering learning to various learning styles and by using assessments to drive instruction. The teacher gets to know each student as a whole, as well as the class as a community by conducting class profile inventories and individual student profiles. This data is then used to accommodate students and plan according to their developmental, social and academic needs. According to Levy (2008), diagnostic, formative and summative assessments are important tools for understanding individual students’ needs, abilities, interests and strengths and differentiating instruction. Lastly, the teacher’s goal becomes planning lessons using learning strategies that serve every member of the class. To do this properly, teachers need time during their day to reflect on their students,
discuss their observations with colleagues, and keep up with the research into educational psychology that informs their profession.

**The Student**

The most important stakeholder in the education system, the student, benefits the most from MI and DI in the classroom. The student receives the support that caters to their unique strengths, needs, and interests. Learning is individualized and students are motivated, engaged and willing to participate in lessons and experiences (Gable et. Al, 2000; Guild, 2001). Through meaningful, authentic and multimodal activities, students are encouraged and supported to think critically, problem solve and explore higher level thinking tasks. They are encouraged to make choices, practice independence and self-regulation, and be involved in the process of their learning and evaluations. In Shore’s study (2004), students describe feelings of empowerment and express that they are able to show their work and understanding more easily through the use of intelligences. The student is excited about learning, is eager to come to school every day, and feels valued, respected and appreciated in the class. Lastly, students’ self-confidence increases as they become more academically successful by noticing and recognizing their own preferred learning strategies when MI and DI is employed in the classroom (Temur, 2007). Students grow and flourish within all of the developmental domains as they are included in the learning process and are able to express themselves freely and safely.

**Recommendations**

Accordingly, recommendations that stem from this research study can be named as the 5C’s: commitment, confidence, collaboration, communication, and conferences. Firstly, research shows that teachers must be committed to inclusive practice and equity in order to authentically meet each student’s needs (Ladd, 2013; Edwards, Carr, & Siegel, 2006). The
participants also discussed how they are committed to the whole MI and DI process including spending more time planning, reflecting, and refining their practices. Secondly, teachers must be confident and have high self-efficacy in their teaching skills, techniques and strategies (Edwards, Carr, & Siegel, 2006). In the findings of this study, the participants explain how their personal experiences, own philosophy, attitudes and beliefs shape the way they teach. They are all very confident and experienced educators and have diverse backgrounds in the field of education.

Thirdly and fourthly, collaboration and communication were stressed as paramount in supporting the effective use of MI and DI in the classroom. The three seasoned teachers emphasized ongoing collaboration and communication with colleagues and professionals as they meet weekly or biweekly to discuss units, concerns, and integrating topics across all subjects in meaningful ways. Collaboration serves as a support system where teachers share ideas about new ways of doing things, and provide descriptive and constructive feedback to one another. As well, communicating with students, parents and faculty on a daily basis will also aid in successful DI and MI implementation. It is important to stay current with student’s academic needs as well as developmental needs. This can be achieved through informal or formal conversations with the students and/or their caregivers.

Lastly, conferences were mentioned as important resources for preparation and training in MI and DI (Edwards, Carr & Siegel, 2006). As with any teaching strategy or educational model, one must learn about the technique and then experience it first-hand. Effective MI and DI use cannot be achieved in one week. It requires trial and error, student involvement, strong reflective practice, and the ability to fearlessly and willingly experiment with new techniques. Lastly, conferences do not have to be the expensive, weeklong courses. They can be as simple as
internal staff training or professional learning communities led by experienced mentors or teachers.

**Further study**

As this qualitative study was limited to three semi-structured interviews with teachers, I have a few questions that other qualitative or quantitative research studies could lead to. Firstly, as classroom success depends on two things, how teachers see their students and how they see themselves, I would like a study to focus on staff efficacy, beliefs and attitudes. I would conduct a study using quantitative and qualitative research, rating scales to determine teachers’ self-confidence and objective observations in their classrooms while employing DI and MI. I would hope to see if there was a strong correlation between efficacy and practice and to find out ways to boost or improve their confidence.

Another study that could stem from my research is the examination of the educational system as a whole. Why are MI and DI still not at the foundation of every classroom in every school (public and private)? How can this flaw in the education system be altered or shifted? Why is there a lack of willingness to change and adapt? I would conduct a further study on the heads of schools or principals as they are leaders and are responsible for securing teachers who have the right mindset for their schools. Experienced, effective and high quality teachers see themselves as creative, capable of bringing in new ideas, and not overly committed to past practices. These types of teachers should be flooding schools. These teachers are lifelong learners and are committed to student success and achievement. These teachers can and will effectively incorporate MI and DI as their goal is to meet every student’s needs and help every student succeed.
REFERENCES


Appendix A: Letter of Consent for Interview

Date: October 13, 2014

Dear participants,

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching candidate. I am studying Multiple Intelligence Theory (MI) and Differentiated Instruction (DI) for the purposes of investigating an educational topic as a major assignment for our program. I think that your knowledge and experience will provide insights into this topic.

I am writing a report on this study as a requirement of the Master of Teaching Program. My course instructor and research supervisor who is providing support for the process this year is Mary Lynn Tessaro. 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 40 minute interview that will be tape-recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you. I can conduct the interview at your office or workplace, in a public place, or anywhere else that you might prefer.

The contents of this interview will be used for my assignment, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a 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 questions. I will destroy the tape 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: Rebecca Freedman
Phone number: 647-241-2002  Email: rfreedman21@gmail.com

Research Supervisor’s Name: Mary Lynn Tessaro
Email: marylynntessaro@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 ______________________(name of researcher) and agree to participate in an interview for the purposes described.

Signature: ______________________________________

Name (printed): _________________________________

Date: __________________________
Appendix B: Interview Questions

Background Information

1. How and when did you become a teacher? What do you specialize in?

2. How and when did you begin teaching at this particular school? Why did you apply to teach at this school?

3. Can you describe the philosophy of the school?

4. What are some key priorities in your own philosophy of education?

Staff-Efficacy and Personal Beliefs

1. What does multiple intelligences mean to you?

2. What does differentiated instruction mean to you?

3. What does MI and DI look like in your classroom teaching? How do you do it (at the core of the curriculum)?

4. Have you participated in any training, professional development courses or workshops pertaining to MI and DI?

Instructional Strategies

1. What is the process that you or your students use to determine their dominant intelligence or preferred learning style?

2. Can you describe some of the methods you use when differentiating instruction?

3. How do you combine a variety of intelligence in creative ways during lessons?
Perceived Impact on Students’ Engagement, Motivation and Performance

1. How do you assess your students through MI and DI framework?
2. What are the perceived benefits of DI on students’ motivation, engagement and participation? What indicators do you look for as evidence of this?

Support Teachers Receive

1. What factors support you in employing MI and DI in your classroom? What are some examples?

Challenges

1. What are some challenges that you experience in teaching to students’ multiple intelligences and differentiating instruction?
2. What factors hinder you in employing MI and DI in your classroom? What are some examples?