

Embracing Student Diversity in the Classroom: Meeting the Needs of Each Learner through

Differentiation

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Abstract

The purpose of the current study was to investigate teacher perceptions of differentiated instruction as a framework and set of strategies to meet increasingly diverse needs in the classroom. Carol Ann Tomlinson's model of differentiated instruction (2001) was used in the current study as a frame of reference and to provide participants with a general idea of the core of differentiated instruction. Forty-five secondary school teachers were given a survey to complete (Appendix A). The surveys were distributed in October of 2013 and teachers were given three weeks to complete and return the survey. Thirteen of forty-five surveys were completed and returned. The data that was collected indicated that teachers have an understanding of what Tomlinson's model of differentiated instruction means, but that obstacles such as time, resources, and training prevented differentiation strategies from being adopted and used on a consistent basis.

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Chapter One: Problem to be Investigated

Purpose of the Study

The purpose of this study was to explore teacher perceptions of classroom diversity and to identify if and how teachers use differentiated instructional strategies to meet the needs of their diverse learners. With the topic of inclusion and diversity at the forefront of much educational discussion in British Columbia, it is clear to see that classrooms around the province are becoming increasingly diverse, and that there is a need for teachers to examine their practices and how they are meeting the needs of all of their learners.

Teachers recognize that students learn at different rates, in different ways, and that they enter classrooms at various stages of readiness and development. However, according to Brownlie and Feniak (1998), it is becoming a struggle to balance the demands of today's classrooms that also "include dealing with the increasingly diverse student populations resulting from the inclusion of students with special needs and the influx of large numbers of students who are learning English as a second or third language" (p. 8). With diversity a topic of current educational discussion, I saw the opportunity for an action research inquiry project.

As a beginning educator, one of the first challenges I encountered involved student diversity. Every year I have been met with a classroom of learners, each with their own needs, abilities, and backgrounds that have directly impacted their readiness and learning ability. Each year I have questioned how I could possibly begin to meet the needs of each learner. I have wondered how I could make each child's experience in my class a positive one, one where they would see themselves at the center of their own learning, working with resources, materials, and subjects that are meaningful and relevant to them personally, and that were at their particular academic level. I felt strongly that I needed to embrace student diversity, but also knew that it

was not an easy task. I have faced many obstacles when planning a unit, or even a lesson, for my students. I have used many differentiation strategies, but yearned to know more about how other teachers faced similar situations. I have looked at diversity as something that should be celebrated, not something that caused more work or inconvenience for teachers. This prompted me to inquire into what other teachers' perceptions and experiences with student diversity are, and what they are doing in their classrooms to meet the needs of their diverse learners.

Justification of the Study

Statistics from around British Columbia (BC) have shown that classroom diversity is on the rise in terms of the variety of needs learners bring to the classroom, heightened by the province's focus on inclusion. The British Columbia Ministry of Education's *Inclusion Policy* (2006) stated that our province "promotes an inclusive education system in which students with special needs are fully participating members of a community of learners" and that "all students are entitled to equitable access to learning, achievement and the pursuit of excellence in all aspects of their educational programs" (para. 8). Students with special needs who have an Individualized Education Plan (IEP) are not the only ones who make up increasingly diverse classroom compositions. Students for whom English is not a first or second language are also included in this composition, alongside students with other visible and non-visible differences. The British Columbia Teacher Federation's publication *BC Education Facts* (2012) summarized classroom composition and the increase of needs in classrooms around the province in their examination of the 2011-2012 school year. This study found that:

- There are 12,651 classes with four or more designated special needs students (entitled to an IEP) in 2011–12, up from 12,240 classes in 2010–11.
- In 2011–12, one in five classes in BC public schools has four or more designated

- special needs students (entitled to an IEP).
- There are 2,338 more classes with four or more designated special needs students (entitled to an IEP) in 2011–12 than in 2007–08.
 - The number of classes with four or more designated special needs students (entitled to an IEP) increased from 9,559 in 2006–07 to 12,651 classes in 2011–12.
 - 10,349 classes in BC public schools have four or more students in an English Language Learning (ELL) or English Skills Development (ESD) program. This is an increase of 393 such classes since 2007–08.

The issue and ensuing struggle that teachers continue to face is clear. It is known that “educators are increasingly aware of how the characteristics of race, culture and ethnicity, sex and gender, sexual orientation and physical and mental ability – characteristics that are fundamental to the identity of an individual – impact the access to and outcomes of education” (Consortium on Diversity in Education, 1997, para. 5). However, it is also recognized that:

Despite the diversity among them, all young people have similar educational needs. All of them need to learn how to be economically self-sufficient, how to participate in the lives of their communities, how to understand the world in which they live, how to enjoy the benefits of Canadian society, and how to raise, in turn, the next generation.

(Government of British Columbia, 1988, p. 6)

How do we ensure that the many characteristics of diversity, as mentioned above, are embraced, while ensuring that each child’s educational needs are met? This challenge is faced by educators today in classrooms around the province, and without a doubt, around the world.

The Ministry of Education recognized the difficult task educators face when it was stated that “addressing the needs of an increasingly diverse population presents an ongoing challenge”

(British Columbia Ministry of Education, 2008, para. 5). This was the challenge I sought to address in the current study. Lewis and Batts (2005) inquired into teachers' abilities in their study when they questioned and subsequently examined how teachers could possibly meet the needs of individual students when those needs are so diverse, and when they have daily time constraints and a multitude of other responsibilities. However, as educators, we have a job to do. Our purpose is clearly articulated in the *British Columbia School Act*, which states that "as teachers we need to enable all learners to develop their individual potential and to acquire the knowledge, skills, and attitudes needed to contribute to a healthy, democratic and pluralistic society and a prosperous and sustainable economy" (British Columbia Ministry of Education, 1996, para. 4). Therefore, the question must be asked: How are teachers meeting the increasingly diverse needs present in their classrooms?

Carol Ann Tomlinson's work on differentiated instruction has aimed to answer this question. She has noted that "today's teachers still contend with the essential challenge of the one-room-schoolhouse" and that they struggle with "how to reach out effectively to students who span the spectrum of learning readiness, personal interests, culturally shaped ways of seeing and speaking of the world, and experiences in the world" (Tomlinson, 1999, p. 1). Tomlinson presented the idea of differentiated instruction as a way to meet the varied needs of this spectrum of students as it provided different avenues to acquiring content, to processing or making sense of ideas, and to developing products so that each student can learn effectively (Beecher & Sweeny, 2008).

According to Tomlinson (2001), "kids of the same age aren't all alike when it comes to learning," and while the basic commonalities all shared by the human race are acknowledged and built upon in the differentiated classroom, "student differences become important elements in

teaching and learning too” (p. 1). Tomlinson’s framework of differentiation is built on a foundation that recognizes and supports individual differences in daily teaching and learning. At a basic level, Tomlinson believes that differentiation occurs when teachers use strategies that “shake up what goes on in the classroom so that students have multiple options for taking in information, making sense of ideas, and expressing what they learn” (Tomlinson, 2001, p. 1). In my experience, this is a contrast to a “one-size-fits-all” approach, where each student, despite individual learning differences and needs, is provided with the same content, goes through the same process in terms of how they access the material they are provided with, and produces the same product that demonstrates their understanding of the topic at hand (Pettig, 2000, p. 18).

In her various books and articles written on the topic of differentiation, Tomlinson illustrates key aspects of what differentiation is and what it can look like in various classrooms. She notes that differentiation is “proactive” in that, when differentiating, teachers “assume that different learners have different needs and proactively plan a variety of ways to ‘get at’ and express learning” (Tomlinson, 2001, p. 3). She also states that, when differentiating, teachers need to focus on three key curricular areas: content, process, and product, and this is what I believe to be the essence of Tomlinson’s framework (Tomlinson, 2001). In her view, content relates to “input” or “what students learn” (Tomlinson, 2001, p. 3). “Process” refers to “how students go about making sense of new ideas and information” and “product” represents “student output” and how students demonstrate what they’ve learned (Tomlinson, 2001, p. 3-4).

Additionally, key to Tomlinson’s framework of differentiation is the premise that multiple teaching and learning strategies need to be used to provide various options for students in creating a student-centered learning environment. According to Tomlinson (2001):

Differentiated classrooms operate on the premise that learning experiences are most

effective when they are engaging, relevant, and interesting. A corollary to that premise is that all students will not always find the same avenues to learning equally engaging, relevant, and interesting. Further, differentiated instruction acknowledges that later understandings must be built on previous understandings and that not all students possess the same understandings at the outset of a given investigation. Teachers who differentiate instruction in mixed-ability classrooms seek to provide appropriately challenging learning experiences for all their students. These teachers realize that sometimes a task that lacks challenge for some learners is frustratingly complex to others. (p. 6)

When teachers use strategies that, as noted by Tomlinson, shake things up for their learners, and provide multiple options and opportunities in student-centered environments, they are using Tomlinson's framework to differentiate. With diversity on the rise in our BC schools, the examination and adoption of a teaching framework such as Tomlinson's is an option to consider when looking for ways to teach and meet the needs of diverse groups of students.

The current study examined teachers' experiences and perceptions of diversity in their classrooms, and how they were able to support that diversity, whether it was through the use of a differentiated framework or other means. There is a need to differentiate. Teachers can no longer use the "one-size-fits-all" approach to teaching in this era of increasingly complex classroom compositions, which will undoubtedly continue to increase alongside teacher responsibilities and expectations (Pettig, 2006, p. 18).

Research Question and Hypothesis

Diversity in classrooms is increasing and teachers are becoming more aware of the need to support many different learning styles and many different needs. I aimed to explore the following questions: What are teacher perceptions of and experiences with differentiated

instruction? What roadblocks or obstacles do teachers face that make differentiation strategies difficult incorporate into lesson design and instruction? What else have teachers done that have enabled them to experience success when teaching diverse groups of learners?

I hypothesized that teachers would agree that their classrooms are composed of students with many unique learning styles and needs. I also thought that teachers would be familiar with the term differentiated instruction, but that they might not use differentiation strategies due to other obstacles they face in their day-to-day classroom settings such as the perceived overall challenge that a classroom with diverse needs presents, or the multitude of other tasks associated with teaching. I also thought that teachers might not use differentiation strategies, but may use other methods to ensure they are providing educationally sound learning environments for varied groups of learners. The goal of this study was to uncover what some of these approaches might be and if they do, in fact, fit under the umbrella of differentiated instruction.

Definition of Terms

Key terms were defined for the purpose of this study and Carol Ann Tomlinson's definition of *differentiated instruction* was used as a basis for this study. Tomlinson (2001) defined *differentiated instruction* as a "flexible approach to teaching in which the teacher plans and carries out varied approaches to the content, the process, and/or the product in anticipation of and in response to student differences in readiness, interests, and learning needs" (p. 10). Building on this definition, *approaches to the content* referred to how topics are presented to students in various ways. *Process* referred to how students examine the material presented, and *product* referred to how students demonstrate their learning or understanding.

Diversity is a multifaceted term that was defined for the purposes of this study using a definition provided by the British Columbia Ministry of Education (2008) in the publication

Diversity in BC Schools: A Framework. In this context, *diversity* was defined as an overarching concept that refers both to our uniqueness as individuals, and to our sense of belonging or identification within a group or groups. The publication expanded on the idea of diversity and noted that the term diversity also referred to the “ways in which we differ from each other” and that some of these differences may be visible, while others are less visible (British Columbia Ministry of Education, 2008, para. 6).

In this study the term *perception* was defined as “the way in which something is regarded, understood, or interpreted” (Perception, 2013). In this study I have aimed to gain an understanding of how teachers interpreted differentiated instruction, and what value they felt it had in terms of a strategy to help meet diverse needs. As noted, a clear definition of differentiated instruction was provided for teachers as many might differentiate, but not know that they are actually doing it.

The term *obstacle* was defined as something that hinders or “impedes progress,” and in this context was used to refer to other tasks, duties, and overall aspects of teaching that would hinder a teacher’s ability to provide students with differentiated instruction to meet their needs, or deter them from taking on such a task (Obstacle, 2013).

In the context of this study, *teachers* referred to secondary school teachers in positions in one secondary school (grades nine through twelve) in a school district located on the east coast of Mid-Vancouver Island which was comprised of nine elementary schools, three middle schools, and two secondary schools.

Brief Overview of Study

This mixed methods study was conducted during the fall of the 2013-2014 school year with a group of secondary school teachers located in one school on the east coast of Mid-

Vancouver Island. The printed survey (Appendix A) was given to a teaching staff of 45 who taught in all subject areas at a secondary school (grades nine through twelve). The survey (Appendix A) was to be completed anonymously by those who gave their consent. The survey (Appendix A) asked teachers a variety of open and close ended questions that included general questions about their subject areas, grades taught, teaching experience, and their perception of the overall diversity within their classroom. The survey (Appendix A) provided teachers with a common definition of differentiated instruction and, using a Likert scale, asked teachers to identify their experiences and perspective of the use of differentiated instruction as a general teaching strategy to meet the various needs within their classroom. By using a Likert scale I was able to gain a sense of teachers' overall experiences and perceptions of differentiated strategies. Teachers were also asked to expand upon their experiences with classroom diversity and other strategies they used to meet the needs of their diverse groups of students, as well as to comment on any obstacles they faced in doing so in four open ended questions.

After a three week time frame for completion, the finished surveys were collected and the data from the close-ended Likert scale statements and the open-ended questions were analyzed. Each Likert scale response was tabulated on a master sheet and the mean and standard deviation representative of all the responses for each statement were calculated. Tables were created that represented the calculated data for each of the five sections of Likert-scale responses (learning environments, teacher differentiation of content, teacher differentiation of process, use of pre-assessment to support differentiated instruction, and teacher perceptions of differentiated instruction). Open-ended responses were more focused on teacher experiences and perceptions of student diversity and differentiated instruction. After reading each response thoroughly, these responses were broken into themes: diversity; methodology and training; knowledge;

understanding and perceptions of differentiated instruction; and strategies to meet diverse needs, and teachers' responses to these themes were presented and discussed as results in this study.

Chapter Two: Review of Literature

In this study I sought to learn more about teacher perspectives of student diversity and their use of differentiated instructional strategies to meet such varied needs. In my short career as a teacher one of the biggest challenges I have faced has been meeting the diverse needs my complex classroom compositions present each year. I hoped that teachers would share some of their experiences with differentiation, as well as describe specific strategies they used in their own teaching to best meet diverse needs. In my initial investigation of the topic, I was introduced to the work of Carol Ann Tomlinson on differentiation. As part of this study, I was interested in researching if similar studies had been conducted, or what the literature said about aspects of my particular focus.

Tomlinson and Differentiation Research

Differentiated instruction is a widely accepted educational approach for teaching students with a wide range of educational needs (Lawrence-Brown, 2004). Although differentiated instruction has gained “increased attention over the past decade,” the “basic premise” is not new (Rock, Gregg, Ellis & Gable, 2008, p. 31). As an “author of over 200 books, articles, and chapters,” it is my opinion that Carol Ann Tomlinson has made many important contributions to the teaching profession with her work and studies in this area (Rebora, 2008, para. 2). Tomlinson (2000) maintains that differentiation is not just an instructional strategy, nor is it a recipe for teaching, rather it is an innovative way of thinking about teaching and learning. Subban’s (2006) detailed review of research on differentiation noted Tomlinson’s contributions and the value of differentiated instruction as a teaching tool:

Tomlinson, a leading expert in this field, defines differentiated instruction 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. A chief objective of differentiated instruction is to take full advantage of every student's ability to learn. In addition, Tomlinson points out that differentiating can be performed in a variety of ways, and if teachers are willing to use this philosophy in their classrooms, they opt for a more effective practice that responds to the needs of diverse learners. (p. 940)

Subban's (2006) review, while noting the importance of Tomlinson's work in the field, also discussed some of the educational research that had been done to support differentiation in the classroom. She noted that due to the diversity in classes, teachers need to pursue a "new model" of education and that "the rationale to consider a new model is directed by several issues, including current student diversity, brain research, theories concerning learning styles and the multiple intelligences" (p. 937).

Additionally, Subban (2006) also noted that "while differentiation is acknowledged to be a compelling and effectual means of restructuring the traditional classroom to include students of diverse abilities, interests and learning profiles, the philosophy is lacking in empirical validation" and that "currently, a great deal [of work] has been forwarded with regard to theory, with a decided gap in the literature regarding the use and effectiveness of the differentiated model in practice" (p. 936). Noting this, and an overall lack of concrete empirical studies that discuss the impact of differentiation, I acknowledged this as an area for further research and study.

Student Diversity and the Use of Differentiated Instruction Strategies

Acknowledging the perceived challenges that increasingly diverse classroom compositions present is a topic in many studies. According to Tomlinson et al. (2003), today's classrooms are characterized by academic diversity. They note that:

Seated side by side in classrooms that still harbor a myth of homogeneity by virtue of chronological age are students with identified learning problems; highly advanced learners; students whose first language is not English; students who underachieve for a complex array of reasons; students from broadly diverse cultures, economic backgrounds, or both; students of both genders; motivated and unmotivated students; students who fit two or three of these categories; students who fall closer to the template of grade-level expectations and norms; and students of widely varying interests and preferred modes of learning. (p. 119)

Student diversity goes far beyond visible differences. Today's educators are becoming more aware of the complexity of classroom compositions and how students vary in many ways and on many different levels; however, the instruction and opportunities they receive in their pre-service education, and later as in-service in their careers, do not often support teachers' needs in gaining a better understanding of how to meet the ever-increasing range of needs in their classrooms.

This is the new reality of teaching. According to Algozzine and Anderson (2007) intricate student differences within classrooms today are neither "uncommon" or "unrealistic", nor are the "challenges K-12 [kindergarten to grade 12] teachers face in responding to the differing needs of students in a time of increased pressure of accountability and high-stakes testing" (p. 49).

Today's K-12 teachers face many increased responsibilities and expectations. In my experience I have come to realize meeting the needs of a range of students requires new methods, new strategies, and a change in how I teach. It is often not an easy task, but it is the challenge and core of our profession. If it "is the goal of the teacher to ensure that every student learns effectively and with a sense of satisfaction, this mosaic of students presents teachers with complex and difficult pedagogical dilemmas" (Lou, Abrami, Spence, Poulsen, Chambers &

d'Apollonia, 1996, p.426). Teachers need to make the decision to tailor their instructional methods to meet the meet of diverse learners, and differentiated instruction offers one avenue to do so.

In my experience what is commonly referred to as the “one-size-fits-all” approach to instruction does not meet individual student needs; however, it is still a part of our schools despite the acknowledgement of diverse learning needs (Pettig, 2000, p. 18). In this approach, each student, despite their diverse needs, background knowledge, and readiness, is provided with only one avenue to access a topic and all produce the same product in the end. What is the reason for this? Algozzine and Anderson (2007) recognized the fact that “teachers have yearned for decades for more responsive and effective methods in addressing students’ differences”, but also noted that, despite this, “many children perform daily on the ‘margins’ of their classrooms – never fully engaged and rarely ever catching a glimpse of their brightest potential” (p. 50).

Tomlinson and Allan (2000) stated that “the reality is that many students will encounter a teacher who is enmeshed in a system geared up to teach all 1st graders as though they were the same, or all algebra students as though they were alike. Classrooms and schools are rarely organized to respond well to variations in student readiness, interest, or learning profile” (p. 5). They also noted “most educators appear even to lack images of how a classroom might look – how we would ‘do school’ if our intent was to respond to individual learner needs. In fact, the challenge of addressing academic diversity in today’s complex classroom is as important and difficult a challenge as we have before us” (Tomlinson and Allan, 2000, p. 6). Others argue that it is not idealistic to think that K-12 teachers can differentiate instruction while adhering to standards (Algozzine & Anderson, 2007, p. 52). Tomlinson’s model offers students multiple ways to access and process information, and subsequently share their understanding. It is one way to

begin to look at how to meet the needs of diverse learners because it is a simple approach that “makes sense for students and for teachers” (Tomlinson, 2001, p. 17).

Tomlinson et al. (2003) stated that “as a transformation in society and schools evolves, effective teachers in contemporary classrooms will have to learn to develop classroom routines that attend to, rather than ignore, learner variance in readiness, interest, and learning profile. Such routines maybe referred to as ‘differentiating’ curriculum and instruction” (p. 122). She notes that this involves a “paradigm shift” and a change in the traditional role of the teacher (Tomlinson, 2001, p. 18). According to Tomlinson (2001):

Teachers who differentiate instruction focus on their role as coach or mentor, give students as much responsibility for learning as they can handle, and teach them to handle a little more. These teachers grow in their ability to (1) assess student readiness through a variety of means, (2) “read” and interpret student clues about interests and learning preferences, (3) create a variety of ways students can gather information and ideas, (4) develop varied ways students can explore and “own” ideas, and (5) present varied channels through which students can express and expand understandings. “Covering information” takes a back seat to making meaning out of important ideas. Most of us have not been trained to look at teaching in this light, but we are learners, too. We may not be able to transform our image of ourselves in a flash, but we can change over the course of a career. (p. 16)

Differentiation is not prescriptive and each teacher that takes on the task of altering their instruction to meet diverse needs will do so in a different way. It is a framework for teachers and students to use to embrace diversity. Tomlinson and Allan (2000) stated that there is “no recipe for reaching each young life that comes our way” (p. 4). Embracing differentiation and diverse

groups requires a paradigm shift that Tomlinson calls for. There is a need for “risk takers, inventors, artists and professionals who refuse to be constrained with the paint-by-number approach to teaching” (Tomlinson & Allan, 2000, p. 4). Given the “availability of strategies such as differentiated instruction, responsible pedagogy no longer allows us to teach as if students all learned in one way, and at the same pace. If we are to maximize achievement of general curriculum standards, we must increase our efforts to differentiate instruction” (Lawrence-Brown, 2004, p. 36).

Education needs the risk takers, the inventors, the artists and the professionals Tomlinson calls for (Tomlinson, 2000, p. 4). These educators recognize that every child is unique with different learning styles and preferences (Algozzine & Anderson, 2007, p. 54). According to Lawrence-Brown (2004), “differentiated instructional planning recognizes and supports the classroom as a community to which age peers belong, where they can and should be nourished as individual learners” (p. 36-37). She also noted the importance of schools creating “environments in which all learners can be successful” and that “for inclusion to be successful, all students must benefit. Differentiated instruction is as important for students who find school easy as it is for those who find it difficult. All students benefit from the availability of a variety of methods and supports and an appropriate balance of challenge and success” (Lawrence-Brown, 2004, p. 38).

Thus, although it is recognized that teachers see the need for instructional strategies to compliment the visible and non-visible differences, needs, and abilities their students have, evidence suggests that little is being done to embrace differentiated instruction as a framework through which to implement these strategies. While stories are beginning to emerge, differentiated instruction has yet to be adopted on a wider scale as an effective method to embrace student diversity within the classroom.

Teacher Use and Perceptions of Differentiated Instruction

In my aim to understand teacher perceptions of student diversity and use of differentiated instructional strategies, I was interested in investigating if there was a link between use and perspectives and perceptions to see if there was a connection between teachers' experiences (positive or negative) and their overall adoption and use of the differentiated instructional framework in their teaching, meaning that if they had a positive perception of differentiation, they would use differentiated strategies in their teaching, and if they had a negative perception they would be less likely to use differentiated instructional strategies as part of their teaching repertoire.

Pettig (2000), using Tomlinson's framework, noted that "to say there is a single, perfect example of differentiated instruction is a contradiction of terms" as it "has as many faces as its practitioners and as many outcomes as there are learners" (p. 14). Pettig's study discussed teachers' use and perceptions of differentiated instruction, as well as how a general understanding of what it entails varies from teacher to teacher, and from study to study, as evidenced in Pettig's review of literature on this theme. Pettig shared her experiences with differentiation and noted the value of it as way of teaching because it "represents a proactive approach to improving classroom learning for all students" (p. 14). Pettig noted, however, that it is not a simple task and requires "a change in teaching practice, and an evolution of classroom culture" (p. 14). In seeing the value in Tomlinson's practical framework, Pettig shared how she and her team knew they did not have to "reinvent the differentiated instruction wheel," but rather just needed to "learn how to roll the wheel and how to help others roll the wheel too" (p. 15). Pettig and her team found that what was really necessary was a collaborative approach, and together they planned and implemented several differentiated activities and strategies that, in

following Tomlinson's framework, provided students options in the content, process, and products related to their learning. The group concluded that differentiated "activities take more time to plan and implement," but that, because of this, "more students have the opportunity to 'get it'" and therefore, "these results compel [their] efforts" to continue with the wheel of differentiation (p. 16). Pettig concludes that:

If the journey of differentiating classroom instruction was such a simple, well-marked route, we'd all be there by now. Differentiated instruction requires from us a persistent honing of our teaching skills, plus the courage to significantly change our classroom practices. From our experiences, my colleagues and I are convinced that we can slowly shift from the one-size-fits-all paradigm and adopt a differentiated instructional approach. Crucial to this shift is a view of where we are going, the opportunity to try (and stumble a bit), and the long-term support from administration to get there. Truthfully, tackling the challenge of students with many different needs is not easy; it is a career-long pursuit. (p. 18)

Pettig's study (2000) shared her and her colleagues' personal perceptions of differentiation, but was hopeful in the sense that, because they could see the value in the time and effort they put into their planning, and the results they were having with their students, they would keep going and testing and trying new strategies. Personal experiences that are shared are key to building a better understanding of what differentiation is and how it can impact teaching to diverse needs.

In another study, Bailey and Williams-Black (1998) also built upon their own experiences with student diversity as classroom teachers in their investigation of teachers' perspectives of differentiation. They set out to answer three main questions:

(a) How many teachers use differentiated instruction in their classroom? (b) What type of differentiated instruction is taking place in elementary and secondary classrooms? (c) How are the unique methods or strategies being used to differentiate the content, the process, and the product related to literacy instruction? (p. 137)

While no direct hypothesis is provided, both researchers had strong personal viewpoints behind the study's purpose and were looking for information to inform their teaching practice and to share with others in the teaching profession, something that I connected with in terms of the overall aim of the current study.

Bailey and Williams-Black's (1998) mixed-method study was based on teacher experiences, and began with a questionnaire sent out to 24 elementary and secondary classroom teachers in four states (Florida, Mississippi, California, and Virginia). This sample of teachers was not random as they knew each participant. The researchers noted that participants were all Caucasian and female, and that they also all had a higher level of education and training in the area of literacy. The sample teachers used in this study each received an e-mailed survey and were asked to pass another copy on to a colleague to increase sample size; however, as noted by the researchers this attempt to increase the sample size did not happen as only 14 teachers responded. Of those returned, 11 responses did not indicate that Tomlinson's framework for differentiation was used or understood. These results led the researchers to focus on three teachers whose responses indicated they were familiar with Tomlinson's framework of differentiation. These teachers were interviewed and observed by the researchers. Descriptions of their classrooms, excerpts from interviews, and documentation from observations were included in the study. The researchers included information regarding the credibility of their research,

discussing the member checks that were completed on the returned surveys, as well as the use of triangulation via the use of multiple sources of information from participants.

The results of the study showed how the three teachers differentiated instruction in a reading event. The term “reading event” was not clearly defined and could be open to interpretation; however examples of such events are provided in the qualitative data collected from interviews and observations. The researchers found that the three teachers differentiated the content or the topic of the lesson for students, and they also differentiated the process or learning activities through which the content or topic was taught; however the researchers found that the teachers did not focus on differentiating the product students would develop to show their understanding of the content that was taught. The researchers concluded that the “three teachers were taking the time to differentiate their instruction in order to meet the needs of each student, while still focusing on the standards and skills that need to be taught” but that looking at ways to have teachers “formulate ways to differentiate product” would be an area for further study and research (Bailey & Williams-Black, 1998, 149).

A limitation found within this study involves not only the method of selecting participants, but also the participants who were selected. While an attempt at a wider sample was made using teachers from four states, those selected had many commonalities such as sex, ethnicity, degree of education, and the fact that the researchers knew them. A broader and more random sample was needed for this study, and while an attempt was made by encouraging participants to share a copy of the survey, more effort was needed in reaching a wider sample that would include an increased number of perspectives as gaining an understanding of these perspectives was one of the main goals of the survey.

In another study Logan (2011) examined the use of differentiated instruction as solution for assisting teachers in their diverse classroom environments. This qualitative study examined teacher beliefs about what differentiated instruction entailed. According to Logan (2011) the purpose of the study was to determine what teachers believed differentiated instruction was and to set out what it did and did not include in an attempt to come to a general understanding and agreement regarding the use of the approach. It was noted that the study was guided by the belief that while educators might have heard of the term differentiated instruction, they might not understand what it is, how to implement it, and the truth behind some of the myths and clichés associated with the term. The questions explored in the study were related to differentiated instruction and asked if teachers would agree on what is essential to differentiating instruction in the classroom, and if teachers would agree with the myths surrounding the practice (Logan, 2011).

The study took place in the spring of 2008. The sample included 141 middle school teacher participants, all from one school district in southeast Georgia, who responded to the research survey. Information was provided about the basic demographics of the district, noting ethnicity and economic factors. The sample of participants was broken down by sex and ethnicity, as well as by experience, grade, and subject taught. The data was collected using a qualitative survey created by Logan based on her research in the area of differentiated instruction. A copy of this survey was included with the study.

Sufficient detail is provided as to how the data was analyzed. The researcher systematically described how the data was sorted by school and then recorded using frequency tables. An analysis of the results was neither convincing nor definitive, and vaguely suggested that teachers “may understand and do agree on the essential principles” of differentiated

instruction as set out earlier in the study, with definitions and references taken from Tomlinson's framework of differentiation (Logan, 2011, p. 9). The researcher provided a discussion that suggested possible next steps, such as why middle school teachers do not agree on a definitive definition of differentiated instruction, as well as an investigation into how pre-service teachers and practicing teachers can be better prepared and informed about differentiated instruction.

There are possible limitations to this study. A main limitation is that the researcher's background, interests, and expectations are not readily available or clear throughout this study. Additionally, the presentation of findings is not organized logically and jumps from question to question using more quantifiable measures, whereas summarizing in written form may have made the findings easier to comprehend. Finally, this study draws heavily on one source of data collection. The survey is a starting point, but other methods, like an informal interview, would have added to the data, especially when more subjective information regarding subjects' interpretation of myths and clichés surrounding differentiated instruction are discussed. This section was lacking explanation and needed more teacher perspective and insight that a survey would not provide.

Logan's study provided a strong, yet succinct, review of literature and important ideas from early research related to differentiated instruction. It also was the first article I had read that discussed the myths, clichés, and perceived barriers of differentiated instruction. These two aspects provided new information for me to consider in my own research.

One final study also highlighted the use and effects of differentiated instruction with various groups of students. McQuarrie, McRae, and Stack-Cutler (2008) conducted a three-year study that investigated the use and effects of differentiated instruction in various K-12 classrooms in Alberta, Canada. These researchers found that the use of differentiated instruction

clearly has the “potential to create environments that maximize learning and potential success for all students, regardless of skill level or background” (McQuarrie et al., 2008, p. 24). They also noted that the implementation and use of differentiated strategies “requires time, professional growth, intentional planning, and long term commitment on the part of the educators, school districts, government, and wider school communities” (McQuarrie, et al., 2008, p. 24).

Tomlinson has authored many informational articles about differentiated instruction and its use and impact in the classroom. In one article Tomlinson (2000) looked at schools that were using her framework to implement differentiated instruction and highlighted what was working for these schools. She recognized that “for all its promise, differentiation is complex to use and thus difficult to promote in schools,” but stressed that “moving toward differentiation needs to be a long term change process” (Tomlinson, 2000, p. 26). Tomlinson shared key learnings from schools that were working towards implementing whole-school differentiation and the steps that they had taken to ensure success. Tomlinson (2000) noted how one school had a principal who “encouraged teachers to keep reflective journals on their students in differentiated classrooms” and who also “worked with district administration to give teachers professional development and recertification” for their efforts “towards differentiation” (p. 29). Tomlinson (2000) also discussed another principal who worked with the district to redesign the “middle school schedule for a year to enable each teacher in core subject areas to have an additional hour of planning every day for a semester to support their planning and implementation of differentiated instruction” (p. 29). Tomlinson’s analysis in this article shows the importance of a collective effort in terms of adopting differentiation and using it in teaching practice, as well as the importance of being supported in doing so. I was interested to see if support would be mentioned as something that participants in my study felt they were lacking, or if it was something they felt

they had, and how they felt this support (or lack thereof) related to their perception and use of differentiated instruction.

Impact of Teacher Training and Methodology

Another study of interest, and one that I used to inform my survey (Appendix A), was Tomlinson and Santangelo's study (2012). I used the survey questions Tomlinson and Santangelo created for their study in my own survey (Appendix A). I changed the statements they had their participants respond to so that they would read as "I" statements, and I took out statements that did not apply to my current setting. Tomlinson and Santangelo (2012) sought to explore how "teacher educators self reported beliefs and practices to differentiated instruction" (p. 312). They sampled a public university's teaching faculty and their survey reflected Tomlinson's model of differentiated instruction. Their results showed that few teacher educators "reported using a variety of strategies" that were "harmonious with Tomlinson's framework" but that many valued and prioritized "creating a positive learning environment" (Tomlinson & Santangelo, 2012, p. 322). The researchers concluded that the framework for differentiation is not being modeled for teacher candidates, which was cause for concern and gave the researchers new ground to focus on (Tomlinson & Santangelo, 2012, p. 323). The researchers also noted that there was a lack of study in this area, and indicated that this should be an area for future research and study. It was while reading this study that I began to wonder if there was a correlation between teacher training and their use and perception of differentiation. I also began to think about if there was a possible correlation between the recent graduates from teacher education programs and an increase in use and understanding of differentiated instruction, which is why I marked it as something to investigate in my survey (Appendix A) and participants' responses.

Summary

After an analysis of the literature I was interested to find out how these studies could apply locally. It appeared as though there was a solid agreement that student diversity was becoming more of a focus of educational discussion as educators became increasingly aware of the multi-faceted nature of diversity. I was interested to see if this would extend to the sample of teachers provided with my survey (Appendix A). From the studies examined, it was clear that perceived challenges and opinions were evident that recognized the difficulty of implementing differentiated instructional strategies in today's educational climate. I was interested to see if teachers within my district would agree that implementing such strategies was a challenge, and what the specific challenge, or challenges were. Also, it was also clear that some teachers were stepping out of the "one-size-fits-all" or "paint-by-number approach" and were using differentiation strategies with their diverse groups of learners (Pettig, 2000, p. 18; Tomlinson & Allan, 2000, p. 4). I was interested to also see if this would apply in my district and if teachers were trying differentiation out in their classes. I wanted to know what their experiences were and what specific strategies were working for them. Within these studies it was evident to me that the overall use of and perceptions of differentiated instruction varied; however it was apparent that some sort of instructional techniques needed to be used to address the varied needs of diverse learners. It was my aim to investigate teacher use and perceptions of both student diversity and differentiated instruction on a local scale in order to inform my own teaching practice, but to also look for opportunities at a district level to build a solid framework and appreciation for differentiation strategies.

Chapter 3: Procedures and Methods

Research Design

The aim of the current research was to gather information about teacher perceptions of classroom diversity and to gain a better understanding of how and if teachers were differentiating instruction in their classes. I was also interested in gaining an understanding of the challenges teachers faced when met with a classroom of students with a vast range of backgrounds and overall academic readiness. Having personally experienced many diverse classroom compositions, and through gaining a better understanding of Carol Ann Tomlinson's (2001) work in the area of differentiation, I sought to gain a more concrete understanding of exactly what differentiated instruction entailed and how it could be used by teachers to support diverse groups of learners. These factors lead to this action research project and subsequent mixed-methods study. A mixed-methods model was chosen as I felt that the combination of quantitative and qualitative data would provide a stronger insight into teacher perspectives than other formats would, such as a strictly quantitative or qualitative study.

The research question of interest in the current study asked: What are teacher perceptions of and experiences with differentiated instruction? From this question I hoped to gain an understanding of what roadblocks or obstacles teachers faced that make this differentiation difficult to incorporate into their lesson design and instruction, as well as what other strategies teachers used to enable them to experience success when teaching complex and diverse groups of students.

Tomlinson's work in the field of differentiated instruction was used as a framework for this project and for data collection as it is "well established and frequently cited" in the work of other academic researchers (Hall, Strangman, & Meyer, 2003). Key to Tomlinson's framework

was her definition of differentiated instruction, which stated that “differentiated instruction is a flexible approach to teaching in which the teacher plans and carries out varied approaches to the content, the process, and/or the product in anticipation of and in response to student differences in readiness, interests, and learning needs” (Tomlinson, 2001, p. 10). This definition was included throughout the study, as well as on teacher copies of the survey created and provided for data collection.

Sample

The participants involved with the current research consisted of teachers in secondary school (grades 9 through 12) teaching positions. This group was chosen as a sample of convenience as I live and teach in the Qualicum School District. The sample was also purposive as I hypothesized that because teachers at the secondary school level were specialized in specific subject areas and taught multiple classes of students (versus a generalist elementary school teacher who teaches all subjects to one group), they would have more experience with multiple diverse groups of students, and would potentially use or be familiar with differentiated instruction as part of their teaching, depending on the composition of each class they taught.

The total possible sample size in this study was 45 teachers from one secondary school. Of this group, 13 teachers responded to the anonymous survey (Appendix A), indicating a response rate of 31%. The sample included both male and female teachers with a variety of teaching experience from 2 – 33 years, who taught a variety of core and applied skill subjects, and who had varying degrees of education and training. The secondary school also contained a French Immersion stream and these teachers were included for the research purposes of this study.

Instruments Used

I created the survey (Appendix A) based on the work of Tomlinson and Santangelo (2012). Tomlinson and Santangelo's study (2012) offered me a model to follow and many sample questions as these researchers used a thorough and comprehensive questionnaire that asked teachers about their use and perceptions of differentiated instruction. Tomlinson and Santangelo's questions followed and referred to Tomlinson's framework; therefore I created multiple questions using language and a format Tomlinson and Santangelo used to ensure validity and that common language was being used consistently. I took the statements Tomlinson and Santangelo used in their survey, and re-wrote them to read as "I statements" to further personalize the survey for teachers who consented to respond. Tomlinson's definition of differentiated instruction was provided on the survey as her theoretical framework was used to guide this study. I also believed that teachers might differentiate without knowing it, and that by providing a clear, commonly used definition, just what constitutes differentiated instruction would be made known to the participants. The survey (Appendix A) consisted of nine open-ended questions and forty close-ended questions that asked teachers to respond using a Likert scale. There were two parts to the close-ended Likert scale responses. The first section targeted teachers' use of differentiated instructional strategies and asked teachers to respond using a scale that measured frequency of use. The second part was focused on teacher perceptions and asked teachers to respond with the level with which they agreed to the statements. The nine open-ended questions provided additional information for me that would only be possible through the use of this format, as teachers were provided with the space to respond with as much detail as they would like. I did not want to limit the responses to these questions through the use of a Likert scale, but rather wanted to provide teachers who responded with the ability and space to reflect

and share about their own experiences, practice, and insight. I believed that variables related to student diversity and/or differentiated instruction that I had not included may be captured in this section, or that teachers would expand upon their perceptions in written form. When data was analyzed, Likert scale responses were tabulated on a master sheet and the mean and standard deviation were calculated. Open-ended responses were read, coded, and organized thematically.

Procedures Followed

Upon receiving ethics approval from Vancouver Island University, consent from School District 69 (Qualicum), and from the individual school principal, I presented the survey (Appendix A) at a regularly scheduled staff meeting. The consent form (Appendix B) and accompanying survey (Appendix A) were printed on brightly coloured paper and the questions were kept to two double-sided pages to not only attract teachers' attention, but to also condense questions to a manageable amount that would not discourage teachers from completing it. Sealed envelopes were provided for each staff member to return their survey in, and a designated mailbox was provided for returns. Additionally, recruitment posters were in the school's staff rooms as a reminder of the study and purpose.

Teachers were asked to complete the survey within a three week window. These dates were provided for teachers in the recruitment speech given at the staff meeting, as well as on the consent letter, and on each recruitment poster. A three week time frame was chosen as October and November are busy months with a holiday, district and provincial professional development days, and initial reporting and conferencing dates. I felt that a three week window would provide teachers with ample time to do the survey and return it to secured drop box, as well as provide me with an appropriate amount of time to analyze and subsequently present the data in a timely manner. I collected the completed surveys when the three week window had passed. At this

point I began the task of collating, summarizing, and analyzing the data that had been provided by consenting teachers.

Validity

The goal of this study was to gain an understanding of the perceptions teachers held regarding student and classroom diversity as well as their use of differentiated instruction to help meet the needs of a range of students. I took steps to strengthen both the external and internal validity of the study. I used a mixed-methods design which produced responses from each participant in various forms on the same topic. Longer open-ended responses and several short responses were elicited which gave me more information to use to address the research question. Validity was increased by modeling these questions from a questionnaire that was previously created and used by Tomlinson and Santangelo (2012). Tomlinson and Santangelo's study and questionnaire (2012) had produced responses that supported my overall purpose and research question. Additionally, in the current study, there was a thematic cross over between open-ended and close-ended questions, which, if responses correlated, would add to the overall validity of the study. I ensured that only questions that intended to measure what the study intended to measure were included to add to the validity of the study.

As an extension, data collector bias was minimized as the participants completed the survey directly with no personal or professional contact or correspondence with me regarding the study or the survey in an attempt to have responses be as true as possible. I also attempted to increase validity by submitting a draft survey to five colleagues in different teaching districts for feedback and input prior to distribution to individual participants.

Limitations to the validity were present in this study. Time, location, and other external factors were possible limitations that could not be controlled by me; however I attempted to

address this by allowing sufficient time for teachers to complete the survey so that they could complete it in a setting where they were comfortable and without time constraints. However survey responses might be altered depending on the time of day the survey was completed, where the survey was completed, or if external factors such as heightened noise or stress were present. Another limitation was the time of year in which the survey was presented to teachers. The fall months present unique challenges as teachers are often still in the process of getting to know their students, and depending on their years of experience, teachers might not have much experience to draw from when responding to this survey if they are just getting to know their groups. Additionally, the months of October and November were chosen in which to hand out and complete this survey. These months present many challenges for teachers with shorter teaching weeks and time set aside for conferencing, reporting, and professional development. Many might not have had the time to devote to the completion of the survey due to other responsibilities, or the time to think clearly and reflect upon their practice, perceptions, and overall use of strategies to support diverse learners.

A final limitation involved the topic of the current study and personal bias. Many teachers feel strongly about class size and composition language that had changed over the past few years in their local teaching context, resulting in more diverse classrooms with the inclusion of more students with Individual Education Plans (IEPs). Many teachers have strong, personal opinions about this legislation that could potentially impact their responses to the survey questions and statements to reflect how they feel about the government's view of class size and composition. Potentially, responses could be focused on this underlying political factor, rather than on differentiation or strategies to help with diverse groups of students.

Analysis Techniques

The data collected from the completed surveys were analyzed to gain a sense of teachers' perceptions of differentiated instruction as a way to support the needs of their diverse groups of students. The data was also analyzed for any emergent themes that were present, such as specific challenges teachers faced when planning for, teaching, and assessing diverse groups, or other strategies they might use.

At the end of the three week time frame teachers were given to consent to and complete their surveys (Appendix A), the surveys were collected. The 13 completed surveys were examined and the first step I took was to code and categorize the qualitative data that was provided by teachers in the nine open-ended survey questions. Specific themes were elicited from the responses when coding and categorizing was completed. These themes were found in multiple survey responses and provided me with much data to support the central research question. Responses were described by theme and in summary table form. Quotes from participants were also shared to illustrate a clearer picture of actual teacher perspectives and opinions about diversity, challenges, and strategies used.

Quantitative data from the close-ended Likert scale questions were analyzed and summarized in summary table form to demonstrate teacher use and perception of differentiated instruction. Teacher responses to each question, marked by their selection of one of the five options (strongly disagree, disagree, neutral, agree, strongly agree; or never, rarely, sometimes, often, always), were collated on a master document. After all of the responses had been documented on this document, I calculated the mean for each set of responses, and then found the standard deviation that indicated how responses in the group varied from the mean. Having this data on a master form helped me to gain an understanding of teacher usage and perceptions

of differentiated instruction, as well as specific challenges faced by teachers today. This data, combined with the responses elicited from the open-ended responses provided me with much insight into the research question posed. While only 31% of the possible sample group responded, much data was collected from both the qualitative and quantitative sections of the survey (Appendix A) that gave me an insight into how student diversity is viewed and approached in my school within the sample I worked with.

Chapter 4: Findings and Results

The purpose of this study was to investigate teacher perceptions and use of differentiated instructional strategies (adjusting content, process, and product options to best meet student needs). Forty-five secondary school teachers (grades 9 – 12) were provided with the survey (Appendix A), and thirteen of the forty-five responded anonymously. The survey (Appendix A) used was modeled from Tomlinson and Santangelo's 2012 study which surveyed teacher educators regarding the strategies they use in their practice, and what they are modeling for new teachers. The statements on their survey were altered to reflect my current setting.

Quantitative Data Analysis

Upon collecting the completed surveys, I looked at the Likert scale findings. I created a master template where I recorded each participant's response to each statement. When I had this data collated on one copy, I calculated means for each statement, as well as a standard deviation from the mean for each statement.

The survey (Appendix A) was broken into five sections of close-ended Likert scale responses, and were all analyzed the same way. The first section looked at the learning environment and what teachers were doing to make their classrooms inclusive to all students. The 13 teachers that responded had to select one of the following options regarding the statement: never (N), rarely (R), sometimes (S), often (O), and always (A). Printed on the survey were approximate percentages to correspond with each selection. Never was approximately 0% of the time, rarely was 25%, sometimes 50%, often 75%, and always approximately 100% of the time. Each response option was then given a corresponding number so that I could calculate the mean and standard deviation for each statement. The option never corresponded to one (1), rarely was two (2), sometimes was three (3), often was four (4), and always was five (5). I then

tabulated the responses from all 13 completed surveys to find the mean and standard deviation. When looking at calculated means, I interpreted that I was seeing a number that represented the average of responses, meaning that some responses were of course lower or higher than the mean that was actually calculated. I felt that most would fall in the middle range (3.0), due to the fact that teachers would be responding from different perspectives that I felt would naturally be representative of a spread in responses from 1 to 5. I was specifically looking for means that fell outside of the 3.0 range, anything in the 1 to 2 range, or 4 to 5 range, as I felt that this would indicate an area to investigate because more teachers would be indicating that their responses would fall closer to one end of the response spectrum – either “never” or “always.” I also took note of calculated standard deviations, specifically those over 1.0, as I felt that standard deviations greater than 1.0 indicated a greater range of responses. To me, a finding like this would represent a lack of consensus amongst teachers, or a lack of common use of strategies, depending on the statement asked. The first four sections were all tabulated this way.

The fifth section had teachers respond to statements based on their own perceptions and use of differentiated instruction. The response options were different than the previous close-ended response participants were asked. As I was trying to get at actual perceptions and beliefs, participants were asked to indicate whether they strongly disagreed (SD), disagreed (D), were undecided (U), agreed (A), or strongly agreed (SA) with each of the statements provided. Numeric values were assigned to each response option for mean and standard deviation calculating purposes. Strongly disagree correlated with one (1), disagree with two (2), undecided with three (3), agree with four (4), and strongly agree with five (5). I took the same steps in analyzing this data, and after totals were calculated, means and the standard deviation for each statement were calculated.

Additionally, teachers were also asked to share strategies they used to meet diverse needs. This was an open-ended question, but upon analysis, I found that several strategies were repeated; therefore I created a table (Table 8) that used tallies to show the frequency of these strategies mentioned by participants.

Findings

The results for learning environment (Table 1) illustrate how participant teachers make efforts to build a community learning environment with each of their classes and make efforts to get to know each of their students so they feel known, welcome, and respected. The mean scores for the two questions in Table 1 were 3.6 and 4.2, which indicates that most teachers responded in the sometimes to often category. The standard deviation for both is well below 1.0, which illustrates that there was not much of a variance between answers and the range between responses was small.

Table 1
Summary of Likert Scale Findings – Learning Environment

<u>Statement</u>	<u>Mean</u>	<u>SD</u>
I create activities/assignments to develop a sense of community among students	3.6	0.73
I take deliberate efforts to ensure each student feels known, welcome, and respected	4.2	0.62

Note: n=13, SD = standard deviation

The second section of close-ended Likert response focused on how teachers differentiated the content, or what methods they were using when teaching specific content. For example, offering a variety of formats of information on a topic of focus during a lesson, such as text, video, audio and web-based media would be examples of how teachers could differentiate

content. Additionally, offering support for students who have difficulty with content, or offering extensions and advanced opportunities for students who require additional challenges are both included in this section as well. Teachers' responses to this section (Table 2) indicated that teachers were generally taking steps to differentiate content. Most responses indicated a mean in the range of 3.5 to 4.5, with standard deviations under 1.0 with few exceptions. Standard deviations for the means calculated suggested that there was a slight range in responses, but that most responses fell in the "sometimes" to "often" categories. I noted a few exceptions however. A higher standard deviation was calculated for the statements that asked if teachers provided additional support for learners who were struggling, and the statement that asked if teachers were providing challenges for students who were mastering course content with minimal effort. Upon looking at the data more closely, I noted that these statements were the only ones in the set where participants had chosen "never." I marked this as an area to look at more closely to see if any additional information that expanded on these statements was provided in the open-ended section of survey responses.

Table 2
Summary of Likert Scale Findings – Teachers' Differentiation of Content

<u>Statement</u>	<u>Mean</u>	<u>SD</u>
I use materials that represent a variety of formats	4.5	0.63
I provide supplementary materials/resources to support students who have difficulty understanding the course content	4.4	0.45
I provide supplementary materials/resources to challenge students who master course content with minimal effort	3.8	0.73
I present course content with examples that reflect students' interests or experiences	3.9	0.91

I provide support for students who have difficulty understanding course content (e.g., conferences during class, extra assistance at lunch or outside of class time)	4.2	1.19
I create more advance opportunities or challenges for students who master course content with minimal effort	3.5	1.07
I use strategies to support comprehension and retention of content presented in class (course outlines, note outlines, class summaries, guided reading responses)	4.0	0.67
I solicit feedback to help select/adjust the content presented within a given term or semester	3.6	1.0

Note: n= 13, SD = standard deviation

Teachers responded to statements related to how they differentiated the process students used to access information in the third section of the survey (Appendix A). Statements were provided that had teachers reflect upon and respond to regarding how they design their lessons and activities to provide students various opportunities to interact with the topic through aspects such as learning activities and group assignments. For example, teachers were provided with statements that had them respond to how often they group students based on learning styles, or levels of readiness. They were also asked about the kinds of activities and assignments they offer their students, and if students have choice on how they represent their understanding of specific topics. The data collected (Table 3) shows that there is a definite difference in terms of how this sample of teachers differentiate how students make sense of what they are learning. Overall, means in this section were lower than other sections, and ranged from 2.8 to 4.4, indicating the greater variance in responses for each statement. There was a greater range of standard deviations for each calculated mean which illustrated that teachers' responses were varied and did not indicate an overwhelming response at one end of the spectrum ("never" or "always").

Low means (2.8) were calculated for statements that focused on group work, indicating that this set of participants' responses was at the end of the spectrum that indicated that they rarely look at how groupings are formed in their classes, or form them purposefully based on readiness, interests, or preferred learning styles. Conversely, a higher mean (4.2) was calculated for the statement that illustrated teachers' flexibility when it came to assignments and activities. A higher mean (4.4) was also calculated for the statement had teachers respond if they used multiple forms of assessment to determine course grades, indicating that most responded positively with an "often" or "always". What was also of interest was that the standard deviations for this mean was 0.74, indicating that participants responses were close to this mean. As the quantitative data shows a range of responses, I was interested to see if there would be any correlation between the statements here and the open-ended responses provided by the participants.

Table 3

Summary of Likert Scale Findings – Teacher Differentiation of Process

<u>Statement</u>	<u>Mean</u>	<u>SD</u>
I design activities/assignments that help students understand the course content by interacting with each other.	3.6	0.7
I use a variety of grouping formats during class (e.g., whole class, small group, individual, partners)	3.8	1.01
I use a variety of grouping formats for assignments completed outside of class	3.1	1.07
I allow each student to select his/her preferred grouping format	3.3	0.82
I purposely group students based on their level of	2.8	1.23

readiness (e.g., relevant background knowledge, academic skills)		
I purposely group students based on their interests	2.8	1.15
I purposely group students based on their preferred learning styles (e.g., visual, kinesthetic)	2.8	0.74
I create activities/assignments that offer format options (e.g., write a paper, create a visual, design a webpage, give a presentation)	3.3	1.2
I create activities/assignments that allow each student to select a topic of personal interest	3.9	0.62
I adjust assignment deadlines in response to individual student needs and/or circumstances	4.2	0.95
I provide supplemental support to students who have difficulty completing activities/assignments	4.3	0.63
I create enrichment opportunities for students who create activities/assignments with minimal effort	3.5	1.06
I evaluate each student based on his/her improvement during the semester	3.2	1.09
I use multiple forms of assessment to determine course grades	4.4	0.74
I solicit student feedback to help create/adjust activities/assignments used within a given semester	3.9	0.83

Note: n=13, SD = standard deviation

Teachers were also asked to respond based on statements related to pre-assessment to

support differentiation (Table 4). Getting to know learners on an individual basis, including their interests, hobbies, background knowledge, academic skills and attitude, and learning style preferences are important first steps in differentiation. The data (Table 4) indicated responses that fell more often in the “never,” “rarely,” and “sometimes” categories, as means less than three were calculated. While the standard deviations for each statement indicate that there is a range of responses meaning that some participants did select “often”, the average of the responses is lower than most sections.

Table 4

Summary of Likert Scale Findings – Teacher Use of Pre-Assessment to Support Differentiation

<u>Statement</u>	<u>Mean</u>	<u>SD</u>
I assess each student’s level of readiness (background knowledge, academic skills, attitude) before planning for instruction	2.9	0.99
I assess each student’s interests (future plans, areas of talent or passion, hobbies) before planning for instruction	2.8	1.19
I assess each student’s learning profile characteristics, grouping orientation) before planning for instruction	2.7	1.07

Note: n = 13, SD = standard deviation

Finally, teachers were asked to respond using a Likert scale to statements regarding their perceptions of differentiated instruction (Table 5). High and low means were noted in this section, indicating varying perceptions amongst participants. Higher means indicate that most teachers agree with the statement provided, while lower means indicate the opposite. High means (greater than 4.0) were calculated for statements that asked the benefit of differentiation, as well as the fact that it requires additional time and planning. Standard deviation calculations for these were also relatively low (below .75) which indicates a small variance from the mean. Low means (lower than 3.0) were calculated in this section. A mean of 2.9 was calculated for the statement that indicated all teachers differentiate, and an even lower mean of 1.6 was calculated for the

statement that discussed specific coursework related to differentiation, and if it had been provided in participants' teacher training. Again, I hoped that these perceptions and beliefs would be expanded on in the open-ended portion of the results, as most of the questions were personalized for teachers to respond to, and ample room was provided to expand on their beliefs and current practice.

Table 5

Summary of Likert Scale Findings – Teacher Perceptions of Differentiated Instruction

<u>Statement</u>	<u>Mean</u>	<u>SD</u>
Differentiated instruction is beneficial when teaching to a diverse group of students	4.2	0.69
Differentiated instruction requires extra planning on my part	4.3	0.72
Differentiated instructional strategies are time-consuming	4.2	0.77
Differentiation is something every teacher does	2.9	1.38
Planning and implementation of differentiation for students with special needs or learning disabilities (students with an IEP) is the responsibility of the special education or student support teacher	2.9	1.34
There are a variety of quality materials/resources available for me to use to differentiate in my classroom	2.8	0.95
I have been provided with training for differentiating in my classroom	2.2	0.95
My teacher education program provided the methodology and specific coursework to support differentiation	1.6	0.63
I have opportunities for continuing education (professional development) regarding differentiation	3.0	0.62

My administration is knowledgeable in differentiated instruction	3.8	0.89
There is support available from colleagues for the implementation of differentiated instruction	3.5	0.84

Note: n=13, SD = standard deviation

Qualitative Data Analysis

Participants were asked nine questions that focused on themes of diversity, methodology and training in differentiated instruction, knowledge and perceptions of differentiated instruction, and strategies to meet diverse student needs. The 13 participants went into varying amounts of detail in their responses, ranging from one or two words to full paragraph style responses. Upon collecting the completed responses, I sorted the questions into theme, and then typed each response by theme to look for further themes, or trends in data. During data analysis of participants' open-ended responses, four clear themes emerged out of the questions themselves, and the participants' responses: diversity; methodology and training; knowledge, understanding, and perceptions of differentiated instruction; and strategies to meet diverse needs. The findings from participants' responses have been summarized by theme below.

Findings: Diversity

Participants were asked four questions that focused on the theme of diversity. As the term "diversity" can be read many ways, I provided a definition for reference on the first page of each survey (Appendix A) for participant use. The four open-ended prompts were:

- Briefly describe the overall range of student diversity in your classes
- Have you noticed an increase in classroom diversity throughout your career?
- Please discuss any challenges diversity presents. What is needed to overcome these challenges?

- Please discuss any opportunities diversity presents

Participants' responses about challenges and opportunities diversity presents generally indicated there is a broad range of student diversity in their classes that they can distinguish (Table 6). In these responses teachers indicated that the overall range of diversity fell into these categories: language/culture, reading levels, economic backgrounds, ability levels, motivation and engagement levels, students who were designated as being on adapted or modified programs, and gifted students. Teachers recognized the increase of international students and one noted that students are now coming with "many different first languages and a range of cultural diversity." Another participant noted that the diversity in their class "ranges from students who have a lot of problems with basic literacy, to precocious readers" and that there are now many "highly adapted students" indicating more students with an IEP and set adaptations for the learning environment. Another response indicated that diversity in their class included "motivated and driven" learners to those who presented as "lazy and unwilling." I observed that the participants were able to list multiple ranges of diversity within their classes.

Participants were then asked if, in their opinion, diversity has increased throughout their career. Most teachers (11 of 13) had more than 10 years of teaching experience, and most noted that there was a "significant increase" in diversity in their career. Those that expanded on their responses noted various reasons for this increase. One responded that "we are now 'labeling' kids for numerous reasons" and that "there are more labels available." Another noted that the reasons for this increase were "socio-economics" stating that there are now more "single parent families" and that the "growing International program" was part of the increase too. Two teachers commented on "better testing" and the fact that now "more students with learning challenges are being identified." One teacher who responded "no" and had ten years of teaching

experience stated that they hadn't noticed an increase of student diversity, but that "more attention is now given to the topic and there are more identified students."

When asked about both the challenges and opportunities associated with groups of diverse students, teachers' responses varied greatly. I presented the data from this section in a table to represent the opinions shared and to highlight common themes (Table 6).

Table 6
Teacher Responses to Challenges and Opportunities Presented by Diverse Classroom Compositions

<u>Participant</u>	<u>Challenges</u>	<u>Opportunities</u>
A	- Insufficient time to address individual needs (in terms of teaching + assessment) - In 30 more years, will there be classes with 30 IEPS?	- ?
B	- Not enough time to plan and teach two or more different lessons to the same class - If I was more organized it might happen	- You can have different groups working together (high and low group) - Groups could teach each other
C	- Varying teaching style and methods not always easy - Time needed to set up units and find different resources for different needs	- Opportunity to learn about different cultures, lifestyles, and attitudes
D	- The challenge is getting individualized education plans for every student also finding time	- Current events, sports, global village
E	- Diversity represents varying levels of challenges depending on how you've set up your unit and teaching style. For example, if you expect/want everyone to read the same thing, it is a big challenge! If you provide choice and flexibility in demonstrating outcomes, you've build differentiation in	- Diversity presents choice, personalization and change - Tolerance of differences - Chance for always something new to be happening in classroom
F	- Finding multiple methods of representing information – if you design it up front "retrofits" are neither ugly nor needed for the most part. - Online access and computers are still	- Opportunity to teach in different ways that offer choice (which is motivational) - Can use visual tools to represent learning, audio tools to overcome

challenges for some not to mention a certain level of computer literacy

- Lots of time/planning/forethought
- Class lists ahead of time
- ESL specialists and support staff
- Getting technology available all the time
- Online tools that can support the learner
- Class sizes – need smaller sizes that allow the teacher to more readily address the changes

text issues

- Opportunity to change testing as standardized testing will not work
- “Inquiry” is a buzzword to me but if we frame things in a way that allows all students to look for answers in their own particular way, then we are getting close to “universal success
- As a 20 year veteran, it offers me an opportunity to change the way I was trained and taught for probably 12-14 years in the beginning

G

- It is difficult to meet the needs of a class that has very high achievers and very low achievers
- Specific information on adaptations is often so vague I have to think totally out of the box!

- It allows weak students to feel less “inferior” and more engaged

H

- The core challenge is the lack of discussion about the purpose of public schooling – are we everything to everybody? If so, we become nothing to nobody. Streaming is not without value, neither, of course is community building - but we are no longer certain of our purpose

- Building community
- Building inclusion

I

- I believe all students have a “story to tell” about their background
- All students are special (ed) in their own way
- More than ever students need to be taught in diverse ways which keeps teachers present in the classroom – we can not simply use the same material over + over.
- New timetables need to be created

- Diverse teaching, to me, is holistic education
- “Each person finds identity, meaning, and purpose in life through connections to the community and the natural world” (- R. Miller quote)

J

- Stimulating some, maintaining interest in others
- Motivating all
- With younger grades I need to be structured, stern with completion of work
- Lots of feedback to students and it has to be immediate
- Need smaller class sizes

- Compassion, team work, recognition of individual strengths

K	- I think that a lot of teachers, myself included, work hard to provide instruction and modifications for the students that struggle, but often don't provide challenges for those who are advanced. I try to encourage these students to help others + push themselves, but it is difficult	- Opportunities to try new things and have students take leadership roles in the classroom
L	- TIME (to prep, carry out I class, resources, and support time in class) - Perceived "fairness" by students, parents, colleagues - Engaging various types of learners	- Chance to meet the needs of more students - Gives students chance to work with others more authentically and learn more from each other - Often provides more choice for students to connect more meaningfully and be more engaged
M	- Not enough time, resources or support to change things to be more "differentiated" - Not really sure where to start if things were to change?	- Engagement up? - ?

Note: n= 13, table contents are directly taken from participants' responses – changes have only been made to spelling

In terms of challenges, the notion of "time" appeared throughout multiple participants' responses. Participants noted that there was insufficient time to "address individual needs" or to "plan and teach two or more different lessons to the same class." It was also noted that there wasn't enough time to find resources and set up units that would be taught in a different way to different learners. Motivation and engagement were also responses that appeared more frequently, as multiple teachers commented on the challenge of engaging and motivating learners with varying abilities and interests.

Responses based on opportunities presented by diverse groups of learners were also varied. Generally, teachers mentioned the fact that diverse groups of learners presented an opportunity to try new teaching methods and to teach in different ways. It was also mentioned that diverse groups present the opportunity to have students working together in different ways

as a team, learning from one another as they each get to share their specific strengths and skills, all while building tolerance and an acceptance of difference. The idea of personalization and choice also came up in responses, as teachers noted that diverse groups of learners offered the opportunity for students to personalize their own learning and make choices based on their individual interests and abilities.

Findings: Methodology and Training

Participants were asked two questions that focused on their teacher training and any other professional development they had done in the area of meeting diverse needs and differentiation. Again, the definition of the term “differentiated instruction” was provided at the beginning of the survey for teachers’ to reflect on and to have a common definition of the term for reference. The two questions that were asked were:

- In your teacher training, did you receive any methodology courses to help you plan, teach, and assess diverse groups of students?
- Have you taken any professional development in the area of student diversity or differentiated instruction?

Teacher responses for these questions were very straightforward. Of the 13 teachers that replied to the first question noted above, 10 replied with a “no” and 3 indicated that they had some training. One commented, “sort of ... we were taught to adjust accordingly to needs and interests of students.” Another noted that they had “a little” and that they “touched on diversity (different learning styles, ability levels, etc.) but always addressed them with ‘whole class’ solutions.” Another teacher who replied “no” further stated that they had to take special education courses after they had got their teaching degree to get any kind of training in the area of diverse needs and differentiation.

The theme of little to no training was also found in the second question, which asked teachers if they had taken any professional development in the area. Again, of the 13 that responded, 9 indicated “no”, and the other 4 listed varying examples of training. One said that they had taken “too many, too long ago,” while another stated that their school book club had provided a lot of information for them on the topic. Another listed that they had taken a grad diploma in curriculum, and that diverse learning needs was their area of focus for it.

Findings: Knowledge, Understanding and Perceptions of Differentiated Instruction

Key to this study was building an understanding of the use of differentiated instructional strategies as a way to meet diverse learners’ needs. I aimed to build an understanding of what a sample of secondary teachers knew and thought about these strategies through the following two questions found on the survey (Appendix A):

- Are you familiar with the term “differentiated instruction” as defined?
- How would you describe your overall perception of differentiated instruction?

The responses to the first question indicated that most teachers had an understanding of differentiated instruction and how it was defined as “a flexible approach to teaching in which the teacher plans and carries out various approaches to the content, the process, and/or the product in anticipation of and in response to student differences in readiness, interests, and learning needs” (Tomlinson, 2001, p. 10). Twelve of the thirteen participants indicated “yes” they were familiar with this definition and the meaning behind differentiated instruction, and only one responded “no.” No further comments or information were provided in the responses.

Teacher responses to the second question, which asked them for their perception of differentiated instruction, provided me with much insight into how the participants viewed the topic in a broad sense. Of the 13 participants, 8 offered responses to the question, which are

summarized in table format (Table 7). Participants did not go into the detail I had hoped they would; however I feel that their responses indicate that each has a basic understanding of the core of differentiated instruction, and can see the importance of it as a way to meet the diverse needs of their learners. Many of the statements included in the quantitative close-ended section of the survey (Appendix A) showed data that I had hoped would be expanded upon in the open-ended qualitative questions, but short, to the point, and specific responses were provided to the questions asked here that did not offer any additional information I had hoped to gain. However, I feel that their responses do indicate that there is a lot of room for growth in terms of building an overall understanding of the whole picture of differentiation and what it entails.

Table 7
Summary of Teacher Perceptions of Differentiated Instruction

<u>Participant</u>	<u>Response</u>
A	- Differentiated instruction is starting where each student is
B	- It is a little intimidating in terms of trying to figure out <u>how</u> it looks in the classroom - It is something I am becoming more comfortable with as I reflect and change my teaching practice
C	- Every day I teach with flexibility is to meet individual needs - I don't always meet the needs, but I try and am cognizant of the need
D	- It is a goal to work towards (everyday) not just sometimes
E	- It is necessary - It means best meeting the needs and interests/wants of each individual learner
F	- I try to allow all students to show me their understanding of what they have learned in a way they enjoy
G	- Important! (but difficult to always try to meet the needs of all kinds of learners)
H	- Although I am doing it as described, I do not think I do it very much. I think that, if carried to its logical conclusion, it represents the end of public schooling as I know it. This may be a good thing, but I am not convinced of it.

Note: n=8, table contents are directly taken from participants' responses – changes have only been made to spelling

Findings: Strategies to Meet Diverse Needs

I hypothesized that there may be other strategies teachers were using to meet diverse needs that they might not consider part of the “differentiated” framework as it is broad and somewhat undefined depending on each individual’s training and experience. It was my aim to uncover additional strategies that participants would share so that a bank of tried and tested strategies to meet diverse needs could be built and shared as a resource. The question participants responded to was:

- What other strategies do you use in your practice to help you meet the various needs within your diverse classes?

The responses provided by teachers varied in detail, but commonly used strategies began to appear as I read the responses. It is to be noted that only eight of the 13 participants responded to this question. A tally chart (Table 8) was created to share the frequency of the most commonly shared responses. It was interesting to see that some strategies were repeated amongst the group of participants, as all have varied teaching assignments and experience. Adaptations and modifications provided for teachers in IEPs was something multiple teachers noted in their responses, as was student choice in representing their learning. I again found that this section did not provide any additional responses that I could connect to the close-ended Likert-scale statements they had responded to and marked this as a discussion to look at when I considered possible limitations to my study.

Table 8

Frequency of Strategies used to Meet Various Needs Within Diverse Classes

<u>Strategy</u>	<u>Frequency of Use</u>
More time provided for activities	

Use web-based tools (Google apps)	
Use various “levels” of text	
Change up student groupings	
Student choice of representing learning (complete a project based on their choice)	
Provide rubrics and clear criteria so students can choose their “level” of completion	
Assistive technology (Kurzweil, Google translator)	
Various modes of teaching (oral, written, visual)	
Adaptations and modifications as specified in IEP	
Choice for independent reading (graphic novels, audiobooks)	
Student surveys and check-ins for feedback	

Note: n=8, strategies are generalized, but specific information from responses has been provided to explain what strategies include

Observations

Even though there was only a 30% return rate for the surveys, I felt that the responses provided me with a glimpse into the research questions posed. From both the quantitative and qualitative data collected and analyzed, I was able to gain a sense of how differentiated instruction is perceived by this group of secondary school teachers, as well as what some aspects of teaching are that they feel hinder their abilities to implement more differentiated strategies. Additionally, a list of commonly used strategies teachers use to meet diverse needs within their classrooms was created from the responses provided on the questionnaire. Overall, the data collected and analyzed offered me much to think about in terms of what differentiation looks like on a local scale and what opportunities can come from the data collected.

Chapter 5: Summary, Discussion and Conclusions

Summary

The purpose of this study was to investigate educators' perceptions of differentiated instruction. With increasingly diverse classroom compositions at the forefront of much educational discussion, I was interested in taking on an action research project that would investigate differentiated instruction as a set of strategies to address diverse student needs. After initial research on the topic, and building from personal experience that a "one-size-fits-all" way of teaching and learning is ineffective in the secondary setting, I aimed to build a greater understanding of other local educational professionals' perceptions of student diversity, differentiation, and what roadblocks or obstacles stood in the way of meeting diverse learning needs (Pettig, 2000, p. 18). I was also aware that there would be teachers who were familiar with differentiation and who use strategies to differentiate instruction for their students, so I was interested in gaining a sense of what they did in their teaching practice to meet diverse student needs.

Carol Ann Tomlinson's framework of differentiation (2001) was used as a model for the current study. Tomlinson's framework is a simple approach: teachers can differentiate instruction using strategies that alter the content (how information is presented), the process (how students interact with the material presented), and the product (how students demonstrate their understanding and learning) based on diverse learning needs in terms of background knowledge, readiness, learning profile, and preferred learning style (Tomlinson, 2001). A survey (Appendix A) was created based on a survey Tomlinson and Santangelo used in their 2012 study which also surveyed teacher perceptions of differentiated instruction.

After ethics board, school district, and specific school approvals, the survey (Appendix A) was distributed to 45 secondary school teachers in October 2013. Teachers were given three weeks to complete and return the survey. Of the 45 teachers provided with a survey, 13 completed and returned the survey, indicating a return rate of approximately 30%. The survey consisted of 9 open-ended questions, and 40 close-ended statements for teachers to respond to using a Likert scale. The questions were focused around the key themes of student diversity, formal training in differentiation, and perception and use of differentiation strategies.

The quantitative results were tabulated on a master template and the mean and standard deviation for each statement were calculated. I reviewed each mean and standard deviation for interpretation. The quantitative section of the survey was broken into five sections: learning environments (Table 1), differentiation of content (Table 2), differentiation of process (Table 3), assessment to support differentiation (Table 4), and teacher perceptions of differentiated instruction (Table 5). Open-ended responses to questions that provided qualitative data were each read carefully. At this point key themes emerged: student diversity, teachers' methodology and training, teachers' knowledge and perceptions of differentiated instruction, and teachers' use of strategies to meet various needs within diverse classes. I again read the responses and pulled out quotes from participants that captured their thinking on these themes.

Discussion of Findings

Results for learning environments showed that, of the teachers who responded, most took the learning environment into consideration at least 50% of the time through creating activities to develop a sense of community, and by making deliberate efforts to ensure each of their students feels known, welcomed, and respected. There was more of a span when it came to differentiation of content. This area focused on how teachers are differentiating to make the content, or the topic

students are investigating, more accessible. Means in this section fluctuated between 3.6 and 4.5 indicating that most participants were differentiating the content of their courses by offering more choice to students in terms of how they presented materials and how they were supporting their learning. Also important to note was the fact that little was being done for students who needed an extra challenge and who mastered course content with ease. Other than noting that “gifted” students were part of the complexity of diverse classroom environments, participants did not expand on anything to do with this group of students, or list strategies they used to support these learners in their classrooms.

Differentiation of process quantitative results showed an even greater range of responses. Means calculated in this section ranged from 2.8 – 4.4, indicating a wider range of responses amongst the teachers sampled in this study. This spread of responses indicates that some teachers are making efforts to differentiate process, while others are not. There is no one consistent response or answer that would indicate that all teachers are or are not differentiating the process, or how students engage with the materials they are presented with. Of interest in this section were the low means calculated that indicated teachers were not consistently using group work as a support for differentiation. Statements in this section had teachers respond to whether or not they used group work in their classes, and if they formed these groups based on student levels of readiness, interests, or learning styles. From my interpretation, the low means and relatively low standard deviations indicated that participants rarely took student readiness, interest, or learning style into consideration when grouping, if they even used group work at all. I made sure to check the open-ended responses from participants to see if anything to do with group work was mentioned in these statements. I noted that group work was mentioned three times in the strategies participants used with diverse groups of students, but that while it was mentioned, it

was not expanded on in any way to provide me with more information as to how groups were used to support diverse student needs.

Pre-assessment to support differentiation was another section of the survey. The data collected here showed that responses to each of the three statements were very similar. The means calculated for this section were 2.9, 2.8, and 2.7, and the respective standard deviations were 0.99, 1.19, and 1.07 showing a similar range in responses. In this group, most responses fell in the never to sometimes categories, indicating an area of opportunity for further research and investigation. From this data, I inferred that teachers were not consistently using pre-assessment strategies to get a better sense of their learners prior to planning for differentiation. This could be because of a lack of training, methodology, or even resources to support such strategies, or because they do not have time to complete such pre-assessment strategies. As time was something that was mentioned by teachers as an obstacle to differentiation, it could very well be that the participants do not feel that they have enough time to complete these kinds of activities that they may feel are not directly related to the curriculum of the course(s) they teach. The notion of lack of time and resources to support differentiated instructional strategies has been discussed in the literature on this topic. Lewis and Batts (2005) inquired into the abilities of teachers to meet the needs of diverse groups of students and questioned how teachers could possibly do this when the needs of students were so diverse and when there were daily time constraints and a multitude of other responsibilities teachers needed to address as well. Additionally, in their 2008 study, McQuarrie et al. suggested that for differentiated instruction to be successfully adopted and used by teachers there was a definite need for “creative solutions to find sufficient time to collaborate and prioritize amongst multiple differentiation initiatives in schools and districts” (p. 24). They also noted that there was a need for “teachers to have

resources and support to engage in sustained, collaborative learning to improve their teaching, knowledge, and skills” (p. 24).

Finally, the survey section on teacher perceptions of differentiated instruction showed the greatest span of both mean and standard deviation for the statements provided. Means ranged from 1.6 to 4.3, and standard deviation totals ranged from 0.62 to 1.38. I anticipated that there would be a great spread in these responses as teacher perceptions are personal and will vary from participant to participant and with experience and training. This range also indicated that, while most participants feel that differentiation is beneficial when working with diverse groups of students, a shared consensus on what differentiation is and is not is lacking, and that building a common foundation of understanding as a staff may be an idea for future consideration and discussion. Most teachers agreed that differentiation is time consuming and requires extra planning (means of 4.3 and 4.2 respectively), which may cause teachers to have a less than positive perspective of differentiated instruction. Additionally, it was indicated that few teachers received any kind of training in their teacher education program (mean of 1.6), which could have impacted their perception that differentiation requires extra time and planning. Some teachers expanded on their perceptions in the open-ended section of the survey (Appendix A). A question in this section asked about teacher training with regards to differentiation, and teachers overwhelmingly noted that little or no training or methodology coursework had been provided. Lack of training or preparation through methodology courses was addressed in the literature reviewed for this study by Tomlinson and Allan (2000) when they noted that “most educators appear even to lack images of how a classroom might look – how we would ‘do school’ if our intent was to respond to individual learner needs” (p. 6). Tomlinson and Santangelo (2012) also addressed training in their study on teacher educators when they found that “the framework for

differentiation” was not being modeled for teacher candidates, which was cause for concern and gave them a new area to focus on (p. 323). As such, my specific findings in this area of teacher preparation and training were noted for a recommendation for both further research and practice in this study. In other sections, participant’s responses based on their perceptions of differentiated instruction were rather vague and lacked detail, noting that they believed it was “important” and “necessary”, but not expanding further on the noted importance or necessity. Overall, building positive perception of differentiated instruction, and investigating simple strategies that do not require much additional time or planning could help alter the perspectives of participants as indicated in their responses.

Qualitative data provided by the survey responses offered me more personalized responses that indicated and articulated each individual’s specific thoughts on the themes of student diversity, their methodology and training, their knowledge and perceptions of differentiated instruction, and their use of strategies to meet various needs within diverse classes. Most felt that student diversity was increasing, and could name several challenges this presented, as well as opportunities that could happen as a result. Teachers listed what they felt constituted diversity in their classrooms, noting that diversity included language and cultural differences, ranges in reading levels, varied economic backgrounds and ability levels, different motivation and engagement levels, students who were designated as being on adapted or modified programs, and gifted students. While teachers commented that this diversity presented them with an opportunity to try new strategies, they also mentioned key challenges they faced that made incorporating new strategies into their teaching methods more difficult. Challenges such as lack of time and helpful resources were presented by participants, as well as the fact that participants were unsure of where to start the process of differentiation.

The majority of participants commented that their teacher training did not offer methodology courses in specific differentiation strategies or techniques, nor had they taken or been offered any professional development or in-service in the area throughout their careers. Additionally, teachers noted that they were familiar with the term differentiated instruction as provided for them on the survey (Appendix A), and offered their own interpretations of what it meant (Table 7). Teachers' comments in this section indicated that differentiated instruction is open to interpretation and looks different for each teacher depending on their background and teaching areas.

The strategies participants provided that they use to meet various needs within their classrooms (Table 8) support this in the fact that many different strategies that fit under the umbrella of differentiated instruction were listed. This list (Table 8) illustrated that teachers are using many strategies to support differentiation in their classrooms and that several are using common strategies within their subject areas. The two strategies which received the highest frequency of responses with five each, had to do with adaptations and modifications found on an IEP and student choice of representing learning. I am making the assumption that by indicating adaptations and modifications, participants are referring to a fairly concrete and straightforward list of strategies teachers receive for students with an IEP to assist them in their planning and instruction. This list of strategies varies, and is student dependent, but I noted that it would be of interest to take a closer look at these strategies and build a base list of what is suggested to support all students, not just students with an IEP. I felt that student choice was also something that is quite straightforward, but I was surprised that more teachers had not indicated this in their responses. It was positive to see that teachers were listing strategies they used to support differentiation, and it would be interesting to know if they are being used consistently. Consistent

use is supported by Lawrence-Brown (2004) because, according to her study, due to the “availability of strategies such as differentiated instruction, responsible pedagogy no longer allows us to teach as if students all learned in one way, and at the same pace. If we are to maximize achievement of general curriculum standards, we must increase our efforts to differentiate instruction” (Lawrence-Brown, 2004, p. 36). If teachers are using strategies, they need to be used consistently and shared with others.

Implications of Findings

Findings from the participants’ responses to the questions asked on the survey (Appendix A) indicate key implications for consideration. First, the findings indicated that, generally, teachers are recognizing an increase in student diversity within their various classrooms, and that this diversity has grown throughout their careers. Eleven of the thirteen teachers who responded had more than ten years teaching experience, and most (eight of thirteen) had been teaching for more than twenty years, which was a substantial number of years’ experience to track the increase in diverse needs. Their responses indicate that student diversity is something teachers are recognizing as increasing, and this is also supported by the British Columbia Teachers’ Federation’s summary (2012) which detailed many examples taken from the 2011- 2012 school year. This report sheds light on the state of diversity in BC public schools, such as the fact that in a four year span (2007-2011), the number of classes with four or more designated special needs students (entitled to an IEP) grew from 9,559 to 12, 651, or the fact that 10, 349 classes in BC public schools have four or more students in an English Language Learners (ELL) or English Skills Development (ESD) program, which indicates an increase of 393 classes in the same four year time span. Students today are coming equipped with different skills than they did in the past, and with different needs than have been previously seen; therefore, ideas, strategies, and

methodologies required to meet the needs of these diverse learners need to be a topic of discussion within individual schools and across entire districts.

Additionally, the British Columbia Ministry of Education's report *Diversity in BC Schools* (2008) noted that teachers are needing to address the "needs of an increasingly diverse population" and that "this presents an ongoing challenge" (para. 5). Ten years earlier, Brownlie & Feniak (1998) called attention to both the need to meet the needs of diverse learners, but that also to do so was a challenge as teachers struggled with the other demands of the job which could "include dealing with the increasingly diverse student populations resulting from the inclusion of students with special needs and the influx of large numbers of students who are learning English as a second or third language" (p. 8).

Specific challenges teachers face, like those mentioned above, were echoed by the current study's participants in their responses to the survey (Appendix A). Of the many challenges listed (Table 6), lack of time was a challenge repeated by many participants. It was noted by participants that there is "insufficient time to address individual needs in terms of actual teaching and assessment," that "there is not enough time to plan and teach two or more different lessons to the same class," and that "implementing these strategies would take a lot of time, planning, and forethought." Additionally, a Likert scale statement from the survey (Appendix A) that read "differentiated instruction requires extra planning on my part" resulted in two teachers saying they were undecided, five teachers saying they agreed, and six teachers indicating that they strongly agreed. Similar numbers were recorded for the statement that read "differentiated instructional strategies are time-consuming."

Building a culture within a classroom or even a school that is knowledgeable and supportive of differentiation is an important step in building a foundation of knowledge and use

of differentiation. Also important is building and sharing an understanding Tomlinson's framework of differentiated instruction (2001) and creating a supportive network that can help to bring about change. It is evident from the current study that teachers are seeing the opportunity for differentiation to be beneficial, and many are using and trying strategies on their own (Tables 6 and 7), but there is no feeling or evidence of any collaborative efforts to make meeting diverse needs a broader focus for the school itself. As noted by Pettig (2000), "differentiated instruction requires a change in teaching practices, and an evolution of classroom culture" and that this change "is long, but [a] thoroughly rewarding journey" (p. 14). Several responses from participants indicated that teachers are ready to make changes to their teaching practices as indicated by the many ideas participants shared when discussing opportunities diversity may present (Table 6). One participant noted that meeting the needs of groups diverse learners offered "an opportunity to change the way I was trained and taught," while another noted that it is an "opportunity to teach in different ways that offer choice, which is motivational." Another even noted that differentiation "might happen if I was more organized." It is evident to me that more work needs to be done in sharing the core of what differentiation really is, almost in an attempt to demystify it for teachers who may just think it is another educational buzzword. It appears from my research that teachers can see the benefits, and when asked to respond to the statement if "differentiated instruction is beneficial when teaching to diverse groups of students," two teachers were "undecided," and the other eleven responded in the "agree" or "strongly agree" categories. Therefore, while the benefits that result from the use of differentiated strategies are recognized, getting teachers to realize that their practices need to change in order for for them to experience potential benefits is important.

The work of Algozzine and Anderson (2007) supports the need for teachers to want to change practice as they noted that teachers have “yearned for decades for more responsive and effective methods of addressing students’ differences.” (p. 50). They also recognized that “many children perform daily on the ‘margins’ of their classrooms – never fully engaged and rarely ever catching a glimpse of their brightest potential” (Algozzine & Anderson, 2007 p. 50). This has led me to question how many children in the current setting are being left in the margins. While this can be connected to the use of differentiated strategies, it can also be connected to the use of pre-assessment strategies to inform differentiation of instruction. The evidence from the current study suggests that the use of pre-assessment techniques (Table 4), and the general classroom environment (Table 1) are both areas for further development in the sample of teachers who responded. These initial findings indicate that not enough is being done in terms of pre-assessment to see just what our learners are bringing with them in terms of background knowledge about a specific topic, specific learning needs and preferences, interests, hobbies, and strengths. Doing this, or not doing this, has a major impact on both the students in the class and how safe and comfortable they feel in their learning environment, as well as on what teachers are doing to get to know students in an attempt to differentiate in a way that would best meet their needs.

Limitations

A major limitation of this study was the sample size. While 45 teachers were provided with a copy of the survey, only 13 were completed and returned. Of the 13 teachers that replied, most were teachers who had at least 10 years teaching experience, and most were in the 20 – 30 year range. Getting a greater span of teaching experience via surveying more teachers would have been helpful in gaining a better understanding of teachers’ perceptions, as well as seeing if

there was a link between experience and training in differentiation, and number of years teaching. Additionally, with more responses, a greater number of strategies already in use could also be tabulated which could then be further developed into a resource document to share with colleagues. By surveying the other high school in the district, potential participants may have consented to participating in the survey, and more data may have been collected that would have added to the overall data set and understanding of teacher perceptions of differentiation and what roadblocks or obstacles they faced. Themes could have been further defined or new themes could have emerged with additional data from an increased sample size.

Another limitation was the time of the year in which the survey was completed. While one could argue that there might never be a good time for surveys to be completed, the fall months prove to be filled with additional tasks that need to be completed, such as interim reporting, midterm exams, parent-teacher conference dates, and provincial professional development time. Many who received the survey told me that they were just “too busy” to complete it at this time. Additionally, while recruitment and reminder posters were put up in the staff room and the return by date clearly labeled on the survey and the envelope it came with, I could have taken more concrete steps to remind teachers about the timeframe for the survey to be completed. Many might not have realized that the date had passed and could have still completed it if they were made more aware of the timeframe provided.

Another limitation is the actual survey itself. While steps were taken to ensure that it wouldn't take more than a half-hour to complete, the survey design and amount of responses could have impacted teachers' decisions on whether or not to complete it. I could have pared the survey down to focus on the core information that was being sought, for example, only having questions directly related to perceptions, obstacles, and other strategies used. The number of

Likert scale responses could have been reduced; however, at the time of its creation, I was focused on obtaining as much information as possible. While much information was gained from the Likert scale responses and the open-ended written response, choosing one or the other, or cutting down on the amount of reading and writing required by participants may have encouraged more to respond. I also believe that I could have crafted questions in the open-ended section more carefully, so I could illicit responses that could potentially build on responses participants would have provided in the close-end Likert-scale sections. While I wanted to ask general questions in attempts to get more information, I think that being more specific in this section could have had teachers provide additional information. Additionally, the survey asked teachers to respond about their own practice. Some teachers may have felt uncomfortable sharing such information, as autonomy in practice is something teachers take seriously. Some may have been offended by being asked about their practice and what they are doing to meet diverse learning needs, or may have felt like they were being examined based on what they were or were not doing. These reasons may have dissuaded teachers from completing the survey.

A final limitation is the political climate that we, as teachers in BC, are currently experiencing. Within the past decade teachers have lost contract language to protect class sizes and the composition of these classes. Many teachers who have taught for long enough to have experienced class sizes that had limits in terms of numbers and compositions can see first hand the difference and impact an increase in both size and diversity has made on their profession and day to day teaching practices. Others, who have not taught for that long and do not know any different can still see that the job has become increasingly complex. While I felt that many participants might have shared their political opinions in their responses, I did not see any evidence of this.

Suggestions for Further Research and Practice

After a review of the literature and collection and analysis of the data provided by my survey participants, I have identified five areas for further research or practice: Tomlinson's framework (2001) versus other "differentiation" frameworks; the impact of teacher training on understanding, use, and perception of differentiated instruction; pre-assessment to support differentiation strategies; available in-service and professional development opportunities on meeting the needs of diverse learners; and school organization to support teacher development in the area of student diversity.

Differentiation Frameworks and Strategies

In my opinion, the work of Carol Ann Tomlinson is seen to be the cornerstone of much of the literature and current understanding of differentiated instruction; however, a closer look into other strategies or frameworks, that are not the "one-size-fits-all" or "paint-by-number" ways of teaching, but are used to address the needs presented by diverse classroom compositions is of interest to me (Pettig, 2000, p. 18; Tomlinson & Allan, 2000, p. 4). Tomlinson's framework (2001) is easily understood and broad enough to include countless strategies in terms of how content, process, product, and even assessment can be individualized and tailored for diverse student needs; however there must be other ideas and widely accepted frameworks. For example, Universal Design for Learning (UDL) is a framework that is often mentioned by those in the field of education when looking at meeting diverse learning needs. An investigation into what this framework entails and a comparison with Tomlinson's framework would be an option for future study and investigation. As part of this, empirical studies that compare and contrast other frameworks with Tomlinson's, or studies that go into detail about the effects of implementation of other frameworks or sets of strategies would be interesting to investigate. In my research for

this study, I found there to be a gap in research in this particular area. Building the research base in this area would be advantageous. I would like to see if one has any clear advantages over another, or if a particular framework is more easily understood by a teaching staff if that were to be a direction a school would want to head in with regards to whole-school implementation. Additionally, when researching this topic, I found there to be many articles and studies that discussed differentiated instruction, but few that shared the actual impact differentiation had on students with tangible data, and this was supported by Subban (2006) in her review of research on differentiation. This is an area of opportunity for others in the field of education, as concrete examples of how differentiation is impacting diverse groups of students would be helpful for others looking at ways to support their groups of learners.

Taking a closer look at strategies, such as utilizing specific online resources and supports, or building a bank of project ideas and choices with students, that do not require much additional time but that can be easily integrated into any lesson or unit plan is a recommendation for anyone who is looking at increasing their effectiveness in meeting diverse student needs at their school sites or within their districts. Compiling a collection of these strategies with clear descriptions of what is required and what they look like in practice, but that is easy to read and use immediately would be a recommendation for teachers that are struggling at investigating ways to meet diverse needs. It seems that there is a belief or conception that differentiation of instruction takes a lot of time to design and implement. Helping teachers realize that many strategies are easily implemented and do not take much additional time and forethought would be a first step in bringing about awareness of differentiation strategies and breaking down the idea that these strategies are time consuming. Differentiation does involve an aspect of change in terms of how we teach and while it is not necessarily more work, it is definitely different work.

Impact of Teacher Training

Tomlinson and Santangelo's study (2012) surveyed teacher educators about their use of differentiated instruction strategies and found that they were not being used consistently. This made me think about the teaching profession and the importance of modeling learning strategies as we teach our own students. I began to think about the impact of teacher educators' perceptions and use of differentiation, and the impact it potentially could have on the next generation of teachers. In my study, teachers were not asked to share where they did their teacher training, what university or institute they attended, as it was felt that this might impact confidentiality and make participants' identities known. However, further investigation into local teacher training programs in British Columbia is definitely an area of need as it is important to note if there is a correlation between methodology courses offered at specific institutions and their graduates' use and perceptions of differentiated instruction. While some post-secondary institutions offer a brief introduction to Special Education as part of their programs, these courses often focus solely on adapting for students with an IEP, but what about other students with needs who may not have an IEP? How are pre-service teachers being trained to meet other visible and invisible differences in the classrooms? If methodology courses are being provided, what do they look like? What framework is used? How are teachers putting the ideas expressed in the course to work in practicum placements and then into their teaching programs? Are strategies woven throughout other courses? How do recent graduates feel in terms of preparation for diverse classroom compositions? This could be the focus of an entirely separate study. Additionally, as classroom composition and diverse student needs are becoming more a topic of focus amongst educators, it would be of interest to investigate if teacher education institutions are responsive to the need for

more training in this area and how they have or are planning on changing their programs to include additional training in this area.

Pre-Assessment to Support Differentiation

An observation from the survey responses indicated that there was an opportunity to investigate the use of and strategies related to pre-instructional assessment. Few participants indicated that they took the time and assessed each student's level of readiness or background knowledge, academic skills, and attitude before they began to plan for instruction. Similarly, few participants indicated that they took the time to assess each student's interests, future plans, areas of talent and passion, or hobbies before they began to plan for instruction. Finally, survey responses indicated that not much is being done to assess each student's learning profile characteristics, learning style, learning preferences, or grouping orientation, before they plan units of instruction. This is such an important area for teachers to focus on. If time is not taken to really get to know the learners through pre-assessments, how will their true differences become known? What are the reasons behind this not happening regularly? What resources could be used or developed that would not take much time for teachers, but could offer them valuable information about the unique learners in their classrooms and the interests, skills, attitudes, and preferences they bring with them? If we want learners to be responsive to our teaching, we need to start with looking how our teaching can be responsive to the learners themselves. This is a recommended area of practice to further investigate and look at ways this can be supported within individual schools. It could begin as a collaborative conversation where teachers can share what they are doing to get to know individual students and their needs and it could build from there with teachers researching and sharing ideas on how to go about making such important pre-assessments to inform the rest of their teaching. Researching books that offer suggestions on how

to do this and a rationale for why this is important is a recommendation for practice too. A book club style Professional Learning Community (PLC) could be started that would look at the importance behind getting to know our learners and their prior knowledge, skills, and attitudes.

Professional Development and In-service Opportunities

Based on the results from this study, while teachers know the term “differentiated instruction,” there seems to be a lack of opportunities for teachers to continue in their professional learning of additional strategies to implement with their classes. It also appears that teachers perceive that implementing differentiated strategies will take more time which seems to be a major obstacle for some. There is a definite opportunity to investigate not only the impact of quality professional development on teachers’ use and perceptions of differentiation, but to also investigate what opportunities exist locally for professional development on the topic. Are there local experts in the field who can put on a series of workshops to help teachers become more comfortable with strategies and realize that there are ways to re-vamp their current teaching practices that don’t require much additional work or time, just a different way of approaching content, process, and product. This is a recommended area of both research and practice, as schools would need to find professionals in the area or someone they could bring in to support this kind of a learning initiative, and once in-service had been received, ideas would need to be put into practice, shared, and reflected upon.

School Organization and Support

Looking at how districts are supporting the need for training and professional development in the area of differentiated instruction is one consideration, and looking at how it is being supported at the school level by formal and informal leaders is another. In particular, it would be of interest to investigate how formal school leaders are creating a school culture that

embraces diversity and looks at it for the opportunities it presents, not for the challenges associated with diverse groups of learners and their needs. Interviewing formal leaders about this would be a starting point, and then looking at how districts structure timetables and schools themselves to allow for collaboration time amongst teachers could follow. Several great strategies were shared just by 13 teachers in the current study's survey (Appendix A); it would be interesting to see what strategies could be shared, and how many more could be developed if teachers were given time and a purpose to collaborate for the well being of the students. This could be accomplished through a Professional Learning Community (PLC) structure, school book club, or designated time to meet when teachers could be relieved of teaching duties through a later start or early dismissal. Again, time was presented as a major roadblock or obstacle for teachers in the implementation of differentiated instruction. It would be interesting to research other school models that provide collaborative time to see the impact it has on teaching and learning within a staff. If collaborative time was provided for staff to share and plan, perhaps apprehensions and concerns regarding time would be addressed. If meeting diverse student needs became a focus of an entire staff, the possibilities through which this could be addressed would be worth investigating and sharing. Students are our focus. They are the reason we teach. Their diverse needs, abilities, strengths, and personalities need to be embraced not only by teachers, but also by the greater systems that govern how school is done.

Conclusion

The purpose of this study was to investigate how teachers can best meet the needs of diverse groups of learners. This study aimed to shed light on what differentiation entails and how teachers perceive it in the public school system today. This action research project led me to the work of Carol Ann Tomlinson in the area of differentiated instruction (2001). After a study of

the model and framework of differentiated instruction she presents, I wanted to see how it applied on local scale. Meeting diverse needs was a major challenge for me in my profession, and it was of interest to see what other teachers thought about diverse learners and differentiated instruction as a method to meet these needs. I gained much insight into how other teachers view not only this model, but also the overall diversity of their classes and the challenges associated with meeting the needs of a range of learners and needs. Several other areas for further investigation have evolved from this study and I have been left with many new questions. There is a definite need for professional development and in-school discussions about the topic of diversity and meeting students' needs, and I look forward to supporting this in an informal leadership role in the coming years while continuing to build more of a solid foundation and understanding of differentiation at a local level.

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Appendix A: Data Collection Instrument – Teacher Survey

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Embracing Student Diversity in the Classroom: Meeting the Needs of Each Learner through Differentiation

Please review the following information carefully and then begin the survey. Do not write your name or identify yourself, students, or colleagues in any way on this survey.

When you have completed the survey, please submit by **Friday November 8, 2013**. Completed surveys will be picked up at this time for analysis.

For the purposes of the research and study, the following definitions have been provided:

Differentiated Instruction is defined as a flexible approach to teaching in which the teacher plans and carries out varied approaches to content, the process, and/or the product in anticipation of and in response to student differences in readiness, interests and learning needs. Building on this definition, *approaches to content* refer to how topics are presented to students in various ways. *Process* refers to how students examine the material presented, and *product* refers to how students demonstrate their learning or understanding. (Tomlinson, 2001)

Diversity is defined as an overarching concept that refers to both our uniqueness as individuals, and to our sense of belonging or identification within a group or groups. Diversity refers to the ways in which we differ from each other and these differences may be visible (skin colour) or less visible (reading level, learning readiness). (Ministry of Education, 2008)

Basic Demographic Information:

Female or Male (please circle)

I have been teaching for _____ years.

I am currently teaching _____ number of classes.

Subjects taught (please list):

Level of Education (please circle all that apply):

- Bachelor's Degree
- Master's Degree
- Other: _____ (please do not include any identifiable information)

Part Two: Close-Ended Responses

Please check one of the following:

Never (N) (approximately 0%)

Rarely (R) (approximately 25% of the time)

Sometimes (S) (approximately 50% of the time)

Often (O) (approximately 75% of the time)

Always (A) (approximately 100% of the time)

Use of Strategies that Support Differentiation

Statement	N	R	S	O	A
<i>Learning Environment</i>					
I create activities/assignments to develop a sense of community among students.					
I take deliberate efforts to ensure each student feels known, welcome, and respected.					
<i>Differentiation of Content</i>					
I use text materials in a variety of formats.					
I use materials that represent a variety of formats (e.g., text, video, audio, web-based).					
I provide supplementary materials/resources to support students who have difficulty understanding the course content.					
I provide supplemental materials/resources to challenge students who master course content with minimal effort.					
I present course content with examples that reflect students' interests or experiences.					
I provide support for students who have difficulty understanding course content (e.g., conferences during class, extra assistance at lunch or outside of class time).					
I create more advanced opportunities or challenges for students who master course content with minimal effort.					
I use strategies to support comprehension and retention of content presented in class (course outlines, note outlines, class summaries, guided reading responses).					
I solicit student feedback to help select/adjust the content presented within a given term or semester.					
<i>Differentiation of Process</i>					
I design activities/assignments that help students understand course content by interacting with each other.					
I use a variety of grouping formats during class (e.g., whole class, small group, individual, partners).					

Statement	N	R	S	O	A
I use a variety of grouping formats for assignments completed outside of class.					
I allow each student to select his/her preferred grouping format.					
I purposely group students based on their levels of readiness (e.g., relevant background knowledge, academic skills).					
I purposefully group students based on their interests.					
I purposely group students based on their preferred learning styles (e.g., visual, kinesthetic).					
I create activities/assignments that offer format options (e.g., write a paper, create a visual, design a webpage, or give a presentation).					
I create activities/assignments that allow each student to select a topic of personal interest.					
I adjust assignment deadlines in response to individual student needs and/or circumstances.					
I provide supplemental support to students who have difficulty completing activities/assignments					
I create enrichment opportunities for candidates who complete activities/assignments with minimal effort.					
I evaluate each student based on his/her improvement during the semester.					
I use multiple forms of assessment to determine course grades.					
I solicit student feedback to help create/adjust activities/assignments used within a given semester.					
<i>Assessment</i>					
I assess each student's level of readiness (background knowledge, academic skills, attitude) before planning for instruction.					
I assess each student's interests (future plans, areas of talent or passion, hobbies) before planning for instruction.					
I assess each student's learning profile characteristics (learning style, grouping orientation) before planning for instruction.					

Please check one of the following:

Strongly Disagree (SD)

Disagree (D)

Undecided (U)

Agree (A)

Strongly Agree (SA)

Teacher Perceptions of Differentiated Instruction

Statement	S D	D	U	A	S A
Differentiated instruction is beneficial when teaching to a diverse group of students.					
Differentiated instruction requires extra planning on my part.					
Differentiated instructional strategies are time-consuming.					
Differentiation is something every teacher does.					
Planning and implementation of differentiation for students with special needs or learning disabilities (students with an IEP) is the responsibility of the special education or student support teacher.					
There are a variety of quality materials/resources available for me to use to differentiate in my classroom.					
I have been provided with training for differentiating in my classroom.					
My teacher education program provided the methodology and specific coursework to support differentiation.					
I have opportunities for continuing education (professional development) regarding differentiation.					
My administration is knowledgeable in differentiated instruction.					
There is support available from colleagues for the implementation of differentiated instruction.					

Thank you for completing and returning this survey!

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Appendix B: Participant Consent Letter



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**Participant Consent Form for
“Embracing Student Diversity: Meeting the Needs of Each Learner through
Differentiation”**

Principal Investigator:

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Supervisor:

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Purpose:

This study aims to gather information about teacher perceptions of classroom diversity, the strategies used by teachers to meet the needs of diverse learners (specifically those found under the umbrella of differentiated instruction), and the challenges teachers face when met with a classroom of students with a vast range of backgrounds and overall academic readiness.

Study Procedures:

To participate in this study you are being asked to complete an anonymous survey. The survey should not take more than 20 minutes of your time. You will be asked to answer general questions about your teaching experience and position, and more specific questions about classroom diversity and your use of strategies, specifically differentiated instruction, to meet the needs of diverse learners. You may choose to not answer any question for any reason; however, once the survey is submitted responses cannot be excluded since they can't be distinguished from other participants' results.

When you are done the survey, it is to be put into the secure drop box in your school's office. I will return in three weeks time to collect the box on Friday October 25, 2013.

Potential Risks:

There are no known potential risks.

Potential Benefits:

Researchers or other teachers may use the data to support the needs of diverse learners in their classrooms. Additionally, information about supports teachers need to teach diverse groups of students may be found with the data and used by educational professionals.

Confidentiality:

No names will be recorded during data collection in this study. All documents will be kept in a locked filing cabinet in the office of Dr. Rachel Moll, Faculty of Education at Vancouver Island University (250-753-3245 ext. 2161) for five years. Electronic data and results of this study will be stored on a secured computer that is password protected.

Contact for information about the study:

If you have any questions or would like further information related to this study, you may contact Dr. Rachel Moll, Faculty of Education, Vancouver Island University at 250-753-3245 (ext. 2161), or the principal investigator, Trish Bogle B.Ed, B.A., Master of Education Student at Vancouver Island University at 250-668-0974.

Concerns about your treatment in the research:

If you have any concerns about your treatment as a participant in this research, please contact the VIU Research Ethics Officer at reb@viu.ca or by telephone at 250-753-3245 (ext. 2665).

Consent:

Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time and for any reason. The return of your completed survey indicates your consent to participate in this research and for information you provide to be included in study results

Please keep a copy of this Participant Consent Form for your records.