DIFFERENTIATED INSTRUCTION: EXPLORING IMPLEMENTATION

AT THE MIDDLE LEVEL

by

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This qualitative research study, utilizes a multiple case study to address the gap in the literature related to the examination of the implementation of differentiated instruction in public middle schools. Employing elements of both the Situated Learning Theory and Sensemaking Theory, this study explores the implementation of differentiated instruction from the perspective of teacher learning within the context of three high performing middle schools, in three school districts, in the state of Colorado.

This multiple case study calls upon the experiences of four identified expert differentiating teachers in pursuit of understanding the influences within each school, on teacher learning and ultimately the implementation of differentiated instruction. Employing the mediating constructs of the teacher as individual, communities of practice and the influences of leadership, data was collected and analyzed over a nine month period. The findings capture the multidimensional reality of the classroom teacher and the many influences on teacher learning and the implementation of a complex instructional strategy. Recommendations include improving hiring practices for teachers and administrators, developing differentiated learning opportunities for all educators and creating the organizational capacity for both formal and informal communities of practice to evolve, spend time collaborating, share practices, provide feedback and learn.
DEDICATION

I dedicate this Doctoral dissertation to my family, friends, and colleagues who have provided unwavering support, patience and understanding during this doctoral program.

To my wife Aimee, who selflessly provided and protected time for me to work and who never refused to read or edit my work. Her patience, dedication and support made this endeavor possible.

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CHAPTER 1
INTRODUCTION

Public education is in the midst of widespread reform in the United States. While political involvement through policy is in no way a novel concept in American education, and can be traced as far back as the Old Deluder Satan Act of 1647 (Henson, 2003), policy demands in public schools have arguably become more complex. Unlike educational policy of the past, current expectations demand high performance for each school and require a guarantee that all students are demonstrating measurable growth, concepts that were barely imagined 20 years ago (Honig, 2006, p. 1). While the long-term effects of current reform efforts are subject of much debate (Hess, 2002), today’s school districts, school leaders and educators are scrambling to understand and meet the mandates outlined in legislation like the 2001 reauthorization of the Elementary and Secondary Education Act (ESEA) and the 2004 reauthorization of the Individuals with Disabilities Act (IDEA). At the core of many of these ambitious reform policies is the expectation that teachers individualize or differentiate their instruction to meet individual student needs (U.S. Department of Education, 2010, para. 1). The result of this increased attention to classroom-level implementation has challenged teachers to learn new instructional strategies and to adjust instruction in ways that may depart substantially from their original practice (Coburn and Stein, 2006; Cohen & Barnes, 1993; Cohen & Hill, 2001; Spillane, Reimer & Reiser, 2002). This study emerges from the intersection of current policies to reform instructional practice and the process that educators go through to understand and implement these educational policies.
While differentiated instruction is not called for explicitly in current reform legislation, like No Child Left Behind, expectations that require “innovation”, “flexibility” and “choice” to meet the needs of each child is clearly articulated (U.S. Department of Education, 2002, Sec. 1). To meet the demands within current reform policy, scholars and practitioners are turning to differentiated instruction (VanSciver, 2005). While differentiation appears like an easy, common-sense instructional strategy that is designed to meet the needs of individual students, differentiating instruction is not easy (Brighton, Hertberg, Moon, Tomlinson, Callahan, 2005), it is often misinterpreted and has frequently fallen victim to shallow implementation (Tomlinson, 2008, p. 2). To differentiate instruction effectively requires a change in thinking, planning, assessing and organizing on behalf of the classroom teacher. However, Archambault, et al. (1993) argue that “classrooms and schools are rarely organized to respond well to variations in student readiness, interest, or learning profile” (p. 103), making effective differentiation more difficult. While it is evident that differentiation does occur in some classrooms, the question persists about why differentiated instruction is not more commonly practiced or more consistently understood in schools.

Even though it is strongly connected to recent federal and state policy, differentiated instruction is not a new concept and has been both explicitly stated in educational research like the watershed Marland Report (1972) as well as more implicitly embedded in recent policy like IDEA (2004). As public education continues to evolve and constructivist practices become more prevalent in all classrooms, differentiating instruction to meet the learning styles and needs of all students and measuring the effects of differentiated instruction on all students, is becoming increasingly more important. In
fact, many studies exist that have targeted differentiated instruction and have examined its effects on identified groups of students in specified content areas (Lewis & Batts, 2005; Noble, 2004; Tieso, 2001; Tieso, 2005, Tomlinson, 2008). Research has consistently demonstrated that differentiated instruction has positive effects on student achievement, when done well (Rock, Gregg, Ellis, & Gable, 2008). For instance, Brighton, Hertberg, Moon, Tomlinson, and Callahan (2005) conducted a study to investigate the effects on teachers and students after staff development programs were implemented. These programs were designed to provide teachers with strategies through which all learners, including gifted, minority, and limited-English proficient students would benefit (p. vii). The findings supported that differentiated instruction has a positive effect on students and provided a compelling argument that the implementation of differentiated instruction is complex and requires the active participation of many members within the organization. The author argues that existing research has not examined why implementation has been slow in spreading across schools nor has there been an effective exploration into the causes of shallow implementation of differentiated instruction. Additionally, research has not examined how teachers who have been recognized as high quality implementers of differentiated instruction have come to learn about and understand this complex instructional practice and what contextual supports have facilitated this learning.

This study embraces this challenge and attempts to address the existing gap in the literature. Findings from this study indicate that teacher learning and ultimately the implementation of differentiated instruction is connected to a combination of influences within schools including characteristics of the individual teacher, effects of existing
communities of practice and the active involvement by school administrators in creating a supportive culture for implementing differentiated instruction. In fact, one of the most dominant themes that emerged during the data collection and analysis for this study supported the notion that school administrators must clearly articulate an expectation that all teachers differentiate as well as to reify those expectations with fair and consistent accountability measures. In addition to working within a school culture that values and rewards innovation and risk-taking, the expert teachers identified value in working with colleagues of choice within informally developed communities of practice, in addition to more formalized meetings like team meetings. Recurring themes around the use of modeling and mentorship that utilize and validate the expertise of high-quality differentiators was cited frequently, along with the expressed need to have time for collaboration, giving and receiving feedback and sharing tools and other artifacts to the facilitation of teacher learning and implementation. While more detail will be offered throughout this paper, the findings have clear implications for hiring practices for teachers and principals and emphasize the need to develop structures within schools that differentiate learning opportunities for teachers and administrators. Further, the findings drive the need to explore more flexible scheduling for students and teachers that allow for and support the development of informal communities of practice that are committed to learning and implementing differentiated instruction. In short, the implementation of differentiated instruction must been seen as a learning process for both teachers and administrators, and requires opportunities to collaborate, share, and negotiate meaning about the instructional strategy before and during implementation.
Despite all of the strategies, templates, self-assessments, models and results outlined in the literature, differentiated instruction continues to be an instructional strategy that is shrouded in mystery and plagued by limited or shallow implementation (Tomlinson, 2008). While research has demonstrated the positive effects of differentiating instruction, little attention has been given to understanding the implementation of differentiated instruction from the perspective of teacher learning (Brighton et al., 2005). This study attends to the problem of inconsistent implementation and the lack of research on how to best implement differentiated instruction by seeking to understand the circumstances under which this complex instructional strategy is effectively implemented and the variables that influence teacher learning. Specifically, this study investigates the circumstances that lead to teachers learning about, implementing and continuously developing their practice and the use of differentiated instruction in the classroom, within identified high performing middle schools. This dissertation is founded on the idea that by examining model practitioners within high performing organizations, light may be shed on the steps that need to take place in schools and districts to facilitate more widespread and deep implementation of differentiated instruction. As Honig (2009) suggests, “those interested in improving the quality of education policy implementation should focus not simply on what’s implementable and what works but rather investigate under what conditions, if any, various education policies get implemented and work” (p. 2).

Conventional accounts of policy implementation argue that implementation difficulties at the classroom level are directly related to individual teachers intentionally choosing to ignore policy messages and expectations (Firestone, 1989; Spillane, 2004).
This argument has been criticized in recent years by researchers who believe that simply assuming that teachers choose to ignore policy messages is flawed and an insufficient explanation of the complex implementation process that individuals undergo. Spillane (2004) creates some context for the potential causes of teacher resistance to implementation of new instructional practices by arguing that to decide whether to ignore, alter, or adopt policymaker’s recommendations, implementers must first construct an understanding of the policy message. In recent years, implementation researchers have increasingly begun to examine the implementation process in schools as being inextricably connected to teacher learning, and that the investigation of the influences on teachers and their construction of meaning about policy messages and expectations is critical to gaining insight into implementation (Coburn & Stein, 2006; Cohen & Barnes, 1993; Spillane, 2004). For this study, learning will be conceptualized as “the ways in which communities gradually transform their practices through ongoing negotiations of meaning” (Coburn & Stein, 2006, p. 29). In schools, learning opportunities are often constructed or prescribed for teachers through relatively infrequent, organized professional development offerings. However, this type of out-of-context, disjointed experience is arguably ineffective and does not lead to a sustained change in practice (Coburn & Stein, 2006; Wenger, 1998). Therefore, to understand the implementation of educational policy, an examination of teacher learning and the construction of meaning related to policy and of the mediating variables that influence teacher learning, must take place. Following the position taken by Coburn and Stein (2006) that policy implementation is “a process of learning that involves the gradual transformation of practice via the ongoing negotiation of meaning among teachers” (p. 26), this study
examined the concepts that effect teacher learning and the implementation of
differentiated instruction.

To focus the scope of this study, the mediating constructs that were established to
examine and to better understand teacher learning and the implementation of reform
policy included: the teacher as an individual, including pre-existing knowledge, training,
beliefs about instruction and their personal connection to policy messages about
differentiated instruction (Coburn, 2005; Spillane, 2004; Spillane, Reiser & Gomez,
2006; Weick & Sutcliffe, 2005), the communities of practice within each school (Coburn,
2005; Coburn & Stein, 2006; Honig, 2006; Lave & Wenger, 1991; Spillane, 2004;
Spillane, Reiser & Gomez, 2006; Weick, 2009; Wenger 1998), and the influence of
formal and informal leadership on teacher learning (Coburn, 2005; Coburn & Stein,
2006; Honig, 2006; Spillane, Reiser & Gomez, 2006; Tomlinson, 2000; Weick, 2009).
The aim of this study is to understand the circumstances that exist for teachers, who have
successfully implemented differentiated instruction by examining how teachers learn
about, construct meaning for and effectively implement differentiated instruction, using
the variables of the individual teacher, communities of practice, and leadership within the
selected schools.

This study posits that differentiated instruction is a linchpin component that is
implicitly understood or explicitly stated and is central to the success of current
educational reform policies like No Child Left Behind (2001), and the Individuals with
Disabilities Education Act (2004). To understand how educators understand, talk about,
gain expertise, and enact differentiated instruction is, therefore, a critical and logical step
in understanding the needs for and barriers to successful implementation. Accepting that
differentiated instruction is a complex instructional strategy that is central to the success of current reform policies, this chapter explores the pervasiveness of differentiated instruction in educational policy and reform initiatives, outlines the existing definitions of differentiated instruction in educational literature, investigates the difficulties of understanding and implementing differentiated instruction, examines the reported effects of differentiated instruction when it is done well, and provides a review of existing implementation studies that target differentiated instruction.

**Differentiated Instruction in Reform Policy**

In public education, the trend in policy development has been fixedly focused on improving the education of all students, especially since the passage of the Elementary and Secondary Education Act (ESEA) in 1965. This policy, which was a key component of President Johnson’s “War on Poverty”, established an unprecedented commitment by the federal government to fund and support education, as a means to end poverty. Additionally, the stated belief that all students deserve educational opportunities that are intentionally designed to maximize the potential of each student, though not a new concept in education, quickly became and continues to be the pervading mantra among policymakers and politicians following the Johnson administration (Chafe, 1994).

Today, educational policies and reform efforts continue to target individual student achievement and academic growth. In a report from the U.S. Department of Education (2010) regarding school and school district attempts to meet the demands of current reform policies, the U.S. Department of Education stated:

> [w]ords like individualization, differentiation, and personalization have become buzzwords in education, but little agreement exists on what exactly they mean
beyond the broad concept that each is an alternative to the one-size-fits-all model of teaching and learning. For example, some education professionals use personalization to mean that students are given the choice of what and how they learn according to their interests, and others use it to suggest that instruction is paced differently for different students. (para. 1)

What is especially interesting to this study is the pervasiveness of the concept of differentiation as an explicitly stated or implicitly understood policy message through so many decades of policy development.

For example, in 1972, S. P. Marland accepted the challenge and was commissioned by Congress and the U.S. Commissioner of Education to develop a report about the condition of gifted and talented students in the United States. This report, while its initial purpose was to investigate the practices, research and testing used to place and serve gifted and talented students, extended beyond that focus and provided an initial framework around effective instruction for students in underserved subgroups. The *Marland Report* (1972) is one of the first national reports to reference differentiated instruction as an instructional strategy that is connected with improving the academic achievement of all students. Marland (1972) describes an appropriate instructional approach to meet the needs of each student, regardless of “race and socio-economic level” as differentiated instruction (p. 20). The author further describes differentiated instruction as an obligation; an ideal aligned with democracy and argues against the notion that differentiating is undemocratic by stating:

> [i]f democratic educational practice is interpreted as the same education for all; the answer is yes, differentiated programming [instruction] is undemocratic. If we
believe that democratic education means appropriate educational opportunities and the right to education in keeping with one’s ability to benefit, the answer is no. (Marland, 1972, p.44)

As a country we have whole-heartedly perpetuated the belief that students deserve not only a free public education, but that our children also deserve to have an education that meets them where they are academically and challenges each student according. *The Marland Report* (1972), though initially focused on the talented and gifted population, was connected to the Section 806 Amendment that was made to ESEA in 1969 with the expressed purpose of addressing the underperformance of “bright minds” especially among the “minority groups” (p. 18). This report established descriptive language around the concept of differentiated instruction and established differentiation as a viable instructional approach that teachers should adopt to meet the learning needs of individual students.

In 1984 the watershed publication, *A Nation at Risk*, was published and released by The National Commission on Excellence in Education. This text connected the relatively new idea of educator accountability with the belief that education was tantamount to individual students actualizing their full potential. *A Nation at Risk* lead to a more critical examination and more precise dialogue among policymakers about public education in America and resulted in a resounding call to action. The author opens the report with the simple yet powerful cry, “Our nation is at risk” and closes with the statement:

it is their America, and the America of all of us, that is at risk; it is to each of us that this imperative is addressed. It is by our willingness to take up the challenge,
and our resolve to see it through, that America’s place in the world will be either
secured or forfeited. (National Commission on Excellence in Education, 1984)

Much like Marland’s report, this text, which was written more than a decade later, makes
the argument that not only is it good practice to meet the needs of each student, but it is
an obligation, a moral principle of all educators to attend to the learning needs of every
student.

In the decades following the publication of *A Nation at Risk*, politicians, scholars
and public educators have accepted the challenge and have attempted to shoulder the
responsibility of creating and implementing policy directed at making specific and
significant changes to the business of public schools. Heeding the call to action by the
Reagan Administration and The Commission on Excellence in Education, reform
initiatives like content standards and testing for mastery that had previously been in
progress in states and school districts, quickly gained momentum and set the foundation
for the current climate of increased accountability, the demand for measurable results and
the creation of individual reports of performance for schools and school districts.

In 2001, many of the pieces of the evolving and complicated reform puzzle were
connected and presented to the American people by President George W. Bush. With the
reauthorization of the 1965 Elementary and Secondary Education Act (ESEA), a
bipartisan piece of legislation that is most commonly known as No Child Left Behind
(NCLB), President Bush formalized a series of expectations for states and school districts
that were unprecedented. In this ambitious and mostly unfunded piece of legislation,
President Bush and allies, many from across the aisle, including Senator Ted Kennedy,
penned very specific expectations and mandates for public schools. President Bush
called for “bipartisan solutions based on accountability, choice, and flexibility in Federal education programs” and “improving the performance of America’s elementary and secondary schools while at the same time ensuring that no child is trapped in a failing school” (U.S. Department of Education, 2002, para. 1). The result of this new legislation lead to the increased dedication of states and school districts to develop curricula that were aligned with and adhere to content standards and was intended support holding each teacher more accountable for individual student performance. This evolution in the language of educational policy resulted in expectations of a change in practice that became more focused on the measurable learning of the individual. Ushered by reform legislation, states and school districts increased the use of standardized tests to gauge individual student performance, to establish teacher accountability measures as well as to indicate whether schools in our country are appropriately preparing students for life after public education.

To further support current reform efforts and to validate the policy ideal that quality instruction should be accompanied by measurable results, or proof of academic growth for all students, the federal government again made sweeping changes with the reauthorization of the Individuals with Disabilities Education Act (IDEA) of 2004. Following the lead of the No Child Left Behind legislation (2001), the Individuals with Disabilities Education Act (2004) sought to create systemic change that would facilitate the evolution of inclusion efforts for students with physical, emotional and cognitive disabilities and would address many of the plaguing, decades-old concerns with the identification and placement of students in special education. In light of this unmistakable shift in policy and practice, differentiated instruction has become an
increasingly popular instructional strategy among practitioners as schools and school districts attempt to meet the many demands of current reform policy within the context of the general education classroom.

With the 2004 reauthorization of the Individuals with Disabilities Education Act, policymakers made it clear that simply applying a label of special education to students and providing an Individual Education Plan (IEP) would not be sufficient to meet the demands of students to make progress toward shrinking the achievement gap and guaranteeing academic growth for each student. Much like the language used in NCLB, the revised Individuals with Disabilities Education Act was very explicit about instructional and structural changes that must occur in every school and every classroom. The reauthorized federal law essentially mandates that each student receive the benefit of a strong instructional program, as a general or universal intervention, and that additional interventions should be applied if individual students appear to be in need of more intensive support. This change in policy mandated the implementation of differentiated instruction for all students in all classrooms.

This policy shift has forced a swift change in the special education model and has required schools to be less reactionary and concerned with placement of students, to being more diagnostic and, arguably, more proactive in meeting the needs of every student. The notion of identifying need, providing targeted support and measuring its impact, in a formative sense, is what Response to Intervention, a core piece of the reauthorized Individuals with Disabilities Education Act (2004), is based on and what is currently required of all schools. The call for reform that was formalized in A Nation at Risk has been heard, has been woven into the fabric of all educational reform efforts and
leaves public education with the challenge of creating systemic change that is positive, sustainable and aligned with the needs of each one of our students. Now, more than ever, educators are being asked to be more transparent about what is being taught in the classroom and to insure that each student is showing academic growth from year to year. It is the result of these policy expectations that have contributed to resurgence in attention given to differentiating instruction (McTighe & Brown, 2005; VanSciver, 2005).

Definitions of Differentiated Instruction

While differentiated instruction is not a new instructional strategy and has been explicitly stated or implicitly understood in educational policies through the decades (Rock, Gregg, Ellis & Cable, 2008), the challenge of having a common, operational understanding of the concept persists. By establishing a common language to discuss and examine differentiated instruction, the author was able to create interview questions and establish observation criteria to provide a structure for describing the process that teachers experience in coming to master differentiated instruction. Further, investigating the role of the individual educator, the communities of practice within each setting and the function of leadership as potential influences on teacher learning and ultimately, the implementation of differentiated instruction, was useful in better describing the implementation process for complex instructional strategies. For this reason a discussion about specific characteristics of differentiated instruction is included on this section.

In the previous section, information about the Marland Report was shared and the relevance of that study was delineated. Although the report was commissioned to discover best practices and most suitable programming for gifted and talented students, the findings extended beyond that intended subgroup and have influenced current
thinking around effective instruction. In the report, Marland shares a definition of
differentiated instruction that uses specific language used in definitions of differentiation
in the decades that followed. Marland (1972) states that differentiated educational
programs have three characteristics [based on findings from the Advisory Committee]:

1. A differentiated curriculum which denotes higher cognitive concepts and
   processes.

2. Instructional strategies which accommodate the learning styles of the gifted and
talented and curriculum content.

3. Special grouping arrangements which include a variety of administrative
   procedures appropriate to particular children, i.e., special classes, honor classes,
   seminars, resource rooms, and the like. (p. 21)

Similarly, in 1971 David Hunt found that “more effective learning takes place when the
amount of task structure provided by a teacher matches a student’s level of development”
(Tomlinson & Allan, 2000, p. 23). Much like Marland’s finding that “Liaison between
regular and special teachers, and constant effort to differentiate programs in both settings,
are seen as important” (Marland, 1972, p. 59), Hunt describes a relationship between
learning activities that match a student’s ability, interests and learning style. Tomlinson
and Allan (2000) similarly conclude that “student achievement is not likely to improve
when teachers ask students to practice that which they already know, and that student
achievement is likely to be negatively affected when teachers ask students to complete
tasks that cause students ongoing frustration” (p. 23). Based on the early descriptions of
differentiated instruction, it appears that the essence of differentiated instruction is that
teachers actively work to meet students where they are academically and then challenge each student accordingly, so that academic growth will occur.

The literature is rich with definitions of differentiated instruction. For this study, reviewing a few definitions that have common language and themes is useful. Tomlinson and Allan (2000) define differentiation as “simply attending to the learning needs of a particular student or small group of students rather than the more typical pattern of teaching the class as though all individuals in it were basically alike” (p. 4). Similarly, Rick Wormeli (2006) describes differentiated instruction as “doing what is fair for students. It’s a collection of best practices strategically employed to maximize students’ learning at every turn, including giving them tools to handle anything that is undifferentiated” (p. 3). VanSciver (2005) provides a brief definition of differentiation by suggesting that “high quality teachers attend to the differing needs of diverse learners in the classroom” (p.535). In essence, whether we use the definition given in the Marland Report (1972) or Tomlinson’s latest description, differentiated instruction requires teachers to understand each of their students, and to have enough content mastery and available resources to be able to present materials and provide access to the curriculum in a variety of ways at multiple ability levels, to insure that all students are learning.

While it is relatively easy to apply words to the concept of differentiated instruction, the complexity surfaces when school-level implementers attempt to turn the definitions and theoretical ideals of differentiation into action. In recent years, scholars and researchers have further conceptualized differentiated instruction by creating constructs intended to clarify and further operationalize the strategy. Most often
associated with Carol Ann Tomlinson’s extensive body of work, the four constructs of “content, process, product and learning environment or context” are often referenced by others as instructional elements that can be effectively differentiated (McTighe & Brown, 2005; Tomlinson, 2000; VanSciver, 2005; Wormeli, 2006). The constructs that have been created, with the intent of reducing ambiguity, are the result of educational scholars and practitioners intentionally developing language around the larger concept of differentiated instruction. Presumably, establishing these four constructs for the classroom-level implementer has provided a common language and reduced frustration for both teachers and administrators.

To differentiate the content, is to provide multiple access points to “facts, concepts, generalizations or principles, attitudes, and skills related to the subject, as well as materials that represent those elements” (Tomlinson & Allan, 2000, p. 7). To effectively differentiate the content, classroom teachers must be able to assess all students against a common standard or benchmark to identify current performance levels, before considering specific types of differentiated activities. A challenge in differentiating content is insuring that the instructional goal remains central, regardless of the types of activities or approaches designed. A teacher who differentiates also attends to the learning process. Tomlinson and Allan (2000) describe process as “how the learner comes to make sense of, understand, and own the key facts, concepts, generalizations and skills of the subject” (p.8). Much like differentiating content, when differentiating process, the classroom teacher assesses for ability level as well as interests and learning styles. Like the findings outlined by Marland (1972), Hunt (1971), and Tomlinson (2008), one of the elements of differentiating instruction is the notion of individualizing
or customizing learning opportunities based on student ability, interest and learning style. However, differentiating the “inputs” alone is not sufficient. A teacher who differentiates in the classroom also attends to the “output” or product. *Product* is considered the “items that a student can use to demonstrate what he or she has come to know, understand, and be able to do as the result of an extended period of study” (Tomlinson & Allan, 2000, p. 8). The caution with differentiating product is in guaranteeing that all forms of assessment are comparable in rigor and that the learning objectives are intentionally and clearly tied to the assessment tool, or product. As Wormeli (2006) states, “Differentiated instruction does not mean we make learning easier for students” (p. 4). Rather, differentiated instruction allows teachers to leverage student strengths and interests to take ownership of their learning in the classroom. Finally, the issue of context or learning environment can be differentiated. As Marland (1972) found, students with differing abilities and learning styles may need different grouping, learning environments, resources and support personnel (p. 21). In recent years, the focus on context has been around providing services to all students, regardless of ability level, in the least restrictive environment possible, which is most often in the general education classroom.

A caveat that each of the preceding scholars make in the defining and further clarifying of the concept of differentiation, is that to make a difference in the classroom using the four constructs, teachers must be what VanSciver (2005) calls a “high-quality, differentiating teacher” (p. 535). Regardless of the instructional tools or developed constructs of differentiated instruction, the quality of the teacher is most essential in having a high functioning, differentiated classroom. Tomlinson and Allan (2000) state that “instructional strategies are tools of the teacher’s art. Like all tools, they can be used
artfully or clumsily, appropriately or inappropriately. The person who uses them determines their worth” (p. 11). In studies that explore differentiated instruction, teachers are often described as individuals who are content experts, flexible, willing to take risks and able to advocate for their own needs as a professional (Tomlinson, 2008). As Coburn (2003) states, “Many external reform initiatives promote a view of teaching and learning that challenges conventional beliefs about one or more of these dimensions” (p. 5). The message that differentiated instruction is good practice is commonly accepted as fact, but a missing link with respect to implementation, is around having a common understanding about the concept and having individual teachers who feel confident enough with differentiated instruction to insure effective implementation.

Differentiated instruction has been an evolving instructional approach in the literature for more than four decades, but it continues to face the challenge of being commonly conceptualized and properly enacted in multiple contexts. The compelling nature of differentiation for this study is that it is complicated, has multiple domains, and is often assumed as a common sense trait for good teachers (Tomlinson, 2008, p. 1). In a practical sense, differentiated instruction, which is commonly described as effective teaching and “to teach most effectively, teachers must take into account who they are teaching as well as what they are teaching” (Tomlinson, 2003, p. 2) or “doing what is fair for students” (Wormeli, 2006, p. 3), appears simple enough. However, when we consider teaching as a multi-dimensional process that embodies individual beliefs and experiences, context differences among schools and the varied impact of leadership, understanding the implementation of differentiated instruction becomes much more challenging.
Implementation Challenges of Differentiated Instruction

Recent wide-sweeping reform legislation like No Child Left Behind (2001) and Individuals with Disabilities Education Act (2004) require a new level of reform within school districts, schools and individual classrooms. The change that is mandated by current legislation is different from previous reform efforts, because the stated policies are becoming clearer in language and are requiring more teacher and school accountability that is often tied directly to the policy goals and expectations. Educators are frustrated and fearful that they are being asked to perform in ways, as professionals, that they may not understand or feel equipped to handle. As Fullan (2009) states, “Capacity is often the missing element, even when people agree on the need for change” (p. 11). In a time when public educators are being faced with invasive reform policy, that in many ways challenges previous beliefs and ideals about public education, there is a growing sense of needing clarity and to better understand what is being mandated. Creating meaningful and positive change in schools, while acknowledging that each school has their own set of rules, beliefs, and political environments, is complicated at best.

The recent and significant changes in educational policy require and, to some extent, assume that teachers, school and district leaders have the knowledge, skills and training necessary to understand, interpret and implement the expectations outlined in public policy. For instance, reform policy like the reauthorization of IDEA (2004) expects educators to know how to assess all students against a common standard, to identify areas of individual need, to be masters enough of the content to adjust instruction and assumes that teachers can create meaningful formative assessments that guarantee the
viability of the instruction that students are receiving. With the specificity of language in recent educational reform, it is clear that the bar has been set high for all schools, principals and teachers, with the expectation that all students will show at least a year’s growth in a year’s time, while closing the gap in achievement for all identified subgroups of students. Legislated reform like No Child Left Behind (2001), dictates that all teachers are “highly qualified” to teach in their respective subjects and that all teachers are equipped to manage the needs of every child so that each child can show “adequate yearly progress”. Today’s teachers must be willing and appropriately equipped to gather data from students that will create a full picture of each child, their needs, interests and learning styles, and are then expected to present material in such a way that each student will be guaranteed to show quantifiable academic growth. In short, teachers are expected and are assumed capable of differentiating instruction.

While differentiation has garnered increased attention over the past decade (Rock, Gregg, Ellis & Cable, 2008), challenges around the implementation of this complex instructional strategy persist. Tomlinson (2008) states that it is not uncommon for schools to report that “our teachers know about differentiation, but nobody seems to do much with it in their classrooms” (p. 1). The complexity of differentiation has made it a difficult instructional strategy to implement (Vansciver, 2005, p. 535) and has lead to persistent questions about the root causes of implementation difficulties that surround differentiated instruction. Tomlinson (2000) states, “for all of its promises, however, effective differentiation is complex to use and thus difficult to promote in schools” (p.26). Similarly, Rock, Gregg, Ellis, and Gable (2008) identify differentiated instruction as an essential strategy for reaching students with learning disabilities, though the authors
point out that differentiation is not widely practiced despite evidence of its value. Rock et al. (2008) state, “Although teachers express a desire to meet the needs of all of their students, often excessive workload responsibilities, demands for substantial content coverage, and negative classroom behavior make the challenge seem insurmountable” (p. 34). Differentiating instruction is both difficult and complicated enough in practice that it has not become consistently implemented as common practice.

This study is committed to better understanding how public educators learn about, make sense of and enact differentiated instruction in the classroom. Differentiated instruction is a sound instructional approach to investigate because of its central relevance to current educational reform policy and because of the multitude of problematic issues that have surfaced as the result of its complexity. Recent studies support the claim that the implementation of complex instructional approaches like differentiated instruction is often difficult for educators to consistently understand and talk about and implementation is often complex (Carolan & Guinn, 2007; Van Tassel-Baska et. al., 2008).

Most often, research on differentiation has clearly been focused on the micro-pieces or specific instructional strategies to improve instruction, while failing to address the demanding contextual and systemic needs of implementing differentiated instruction. The failure to address, in a meaningful way, the implementation needs for schools have lead to confusion, misinterpretation and frustration about differentiated instruction. As Carolan and Guinn (2007) note, one widespread perception has been that differentiated practices are highly complicated:
[m]any educators mistakenly think that differentiation means teaching everything in at least three different ways—that a differentiated classroom functions like a dinner buffet. This is not differentiation, nor is it practical. A classroom in which teaching is tailored to the individual needs of students does look different from a one-size-fits-all classroom, but often these differences are less dramatic than teachers believe. For example, a teacher who conjures up a metaphor matched to a student's cognitive ability and personal interests is differentiating, as is a teacher who pushes the thinking of an advanced student during a whole-class discussion. (p. 44)

Tomlinson et al. (2003) point out that:

[b]oth the current reform and standards movement call for enhanced quality instruction for all learners. Recent emphasis on heterogeneity, special education inclusion, and the reduction of out-of-class services for gifted learners, combined with escalations in cultural diversity in classrooms, make the challenge of serving academically diverse learners in regular classrooms seem an inevitable part of a teacher’s role. Nonetheless, indications are that most teachers make few proactive modifications based on learner variance. (p. 119)

This study has the potential of providing useful and practical insight to public school leaders and other practitioners about the circumstances that lead to teacher learning and the effective implementation of differentiated instruction. Failing to gain a more complete understanding of how educators learn about and make sense of policy messages that are being demanded by policymakers will result in the failure to implement
meaningful, sustainable change that should be in place to help all stakeholders meet the
goals set forth in current legislation.

Differentiated instruction is identified in the literature as an approach to help all
students to get their academic needs met, with the hope of ultimately improving academic
achievement. The challenge for practitioners, is finding ways to provide opportunities for
classroom-level implementers to learn about, share, get feedback and effectively
implement differentiated instruction.

**Effects of Differentiation Done Well**

In previous sections, this study addressed the connection of differentiation to
policy, outlined definitions of differentiated instruction and analyzed the challenges of
implementing the instructional strategy. This section will review existing studies that
highlight the effects of implementing differentiation in a variety of settings. Like many
things, when done well, differentiated instruction provides students with the best
curriculum and instruction possible and will result in students who feel more connected
to the material and to their learning (Tomlinson, 2008, p. 32).

Since differentiated instruction is not a wholly new concept or instructional
strategy, it is not surprising that studies do exist that outline the merit of its
implementation. Many studies exist that outline the measurable or observable effects of
instructional strategies that relate to differentiated instruction, like student grouping by
ability (Allan, 1991; Kulik & Kulik, 1987), student engagement (Applebee, Langer,
Nystrand, & Gamoran, 2003; Gersten & Marks, 1998), assessing student progress
(Archbald, 1991; Cheek, 1993; Fuchs & Fuchs, 1993; Tomlinson et al., 2003) or adapting
instruction to specific groups of learners (Borland, 1989; Schumm & Vaughn, 1991).
However, these studies are mostly concerned with identifying specific strategies and the effects of those strategies on students and teachers and are not as focused on understanding how teachers construct meaning about those strategies and influence of variables on teacher learning and implementation. The existing studies reviewed focus on describing or measuring the effect of differentiated instruction in a specific classroom or content area. While there are many articles that mention differentiated instruction, the studies that are included in this review are those studies that share results that move beyond simply creating a menu of specific instructional strategies.

In public education, one of the contributing factors to tension about the implementation of an innovation seems to exist around understanding its purpose and ultimately its effect on the classroom. Practitioners want to know how the proposed change will impact their classrooms, and they want to be reassured that a change in practice will result in a better work environment for themselves and for their students (Sarason, 1990, p. 61). To make a compelling argument for differentiated instruction, being able to describe measurable effects of its implementation is critical. Lewis and Batts (2005) argue that “when elementary teachers relied largely on undifferentiated approaches to instruction, students had an overall 79% proficiency rate on state mandated end-of-year tests. After 5 years of differentiating instruction, 94.8% of their students scored in the proficient range” (p. 26). In a study cited by Tomlinson (2008), findings included increased graduation rates, reduced discipline and drastically improved drop-out rates, as the result of schools committing to differentiating instruction (p. 19). Further anecdotal reports provided by Tomlinson (2000) indicated that “test scores rose markedly in a middle school in Anchorage, Alaska that took a school wide approach to
differentiation” (p. 30). Additionally, “a high school science teacher who conducted action research on the effect of differentiation on his students found positive gains” (p. 30). While the notion of measuring the effects of a complex instructional strategy like differentiated instruction appears to be an emerging idea, there are many other studies that attempt to capture the effect of differentiated instruction on student performance.

In a qualitative study of teachers and students who took part in a study designed to enhance the math curriculum, Tieso (2001) reported that students and teachers both provided anecdotal evidence that designing a unit in math that was differentiated in process, product and content, resulted in “increased motivation task persistence, and cumulative learning” (p. 209). In a study conducted by Baumgartner, Lipowski, and Rush (2003) to investigate the effects of differentiated reading instruction, approaches like flexible grouping, student choice of various tasks, increased self-selected reading time, and access to various reading materials reading were employed. What the authors found was that the targeted students showed improvement in reading achievement as well as student attitudes toward reading. Additionally, the number of comprehension strategies used, mastery of phonemic and decoding skills, and student-rated perceptions of their own reading abilities increased (p. 1).

In another study by Tieso (2005) the effects of curricular differentiation on student achievement with between- and within-class grouping on student achievement was examined. Using a pre-test, post-test quasi-experimental design, teachers and students were evaluated to analyze effect (p. 59). What Tieso found was that students with diverse abilities who received the intervention experienced significantly higher mathematics achievement than students who did not receive differentiated instruction (p.
Hertzog (1998) examined teachers’ use of open-ended activities to differentiate instruction and to improve the learning of students identified as gifted. The author’s findings led her to make the statement that “this approach would give all students more opportunities to demonstrate their strengths and to promote opportunities for these strengths to be shared” (p. 225). This finding is especially interesting as it mirrors the findings outlined by Marland in 1972 regarding the benefit of differentiated instruction for all students, in addition to the indentified gifted students.

No studies were found that focused on understanding the implementation of differentiated instruction from the sociocultural perspective of teacher learning. However, a research survey conducted by Tomlinson, Moon, and Callahan (1998) documented conditions that speak to the need for more responsive classrooms at the middle grade level. The studies that are most aligned with this study are two studies that examined the effect of implementing the differentiation model, which included relating the process to teacher change (Callahan, Tomlinson, & Moon, 2001; Tomlinson, 1999). While implementation literature abounds with studies focused on what has been implemented, the extent of the implementation and the measurable effect of implementation on student assessment scores, there is a dearth of implementation studies that explore the context and conditions for teacher learning and the construction of meaning that will ultimately result in successful policy implementation. An exception to this statement, include a growing collection of authors who have taken a cognitive approach to better understanding the implementation of a variety of programs and instructional practices (Coburn, 2004; Coburn & Stein, 2006; Gallucci, 2003; Honig, 2006; Lave & Wegner, 1991; Spillane, 2004).
The question that persists about differentiation is if it works so well, why is it not more widely practiced? The answers that are in current research are not surprising and point at the recurring theme that general educators feel ill prepared to teach students with diverse learning needs (Brighton et al., 2005; Rock et al., 2008; Tomlinson, 2008). Although teachers express a desire to meet the needs of all of their students, often excessive workload responsibilities, demands for substantial content coverage, and negative classroom behavior make the challenge seem insurmountable (Rock et al., 2008).

**Exploring Existing Implementation Studies**

In today’s schools, it is reported that 96% of teachers have students that have been identified with a learning disability. Of these students, three to four students are on Individualized Education Plans (U.S. Department of Education, 2001). Combine that with the increases in ethnic, cultural and linguistic diversity and the reality that the majority of talented and gifted students are spending the majority of their instructional time in regular education classrooms (Tomlinson, 2005, p. 9) and there becomes little question about the value of teachers knowing how to differentiate instruction. This study is committed to exploring the implementation of differentiated instruction in public schools. However, history has proven that meaningful explorations of the implementation of any idea or innovation within a setting as dynamic as public schools, creates a sizable challenge for any study. DeLeon (2002) points out that, “implementation may be among the most devilish of wicked problems, it remains a critical part of public policy studies” (p. 468).

At the core of this study is the examination of how teachers who have been identified as exemplary differentiators have come to learn and to understand this complex
instructional strategy and to explore the contextual factors that have facilitated their learning. To that end, implementation studies that have examined the implementation of differentiation or related complex instructional strategies, from the perspective of teacher learning, were reviewed to gain insight into the most effective approach to investigate the implementation of differentiated instruction at the middle level.

The real exception in the literature is a study conducted by Brighton et al. (2005) titled “The Feasibility of High-end Learning in a Diverse Middle School”. This mixed-methods study collected data over three years in 6 middle schools in three states (p. x). The purpose of this study was both to examine the effect of teachers and students of a staff development program focusing on differentiated instruction in the general education classroom, and to examine the effect on teachers and students of a staff development program focusing on differentiated authentic assessment strategies (Brighton et al., 2005, p.ix). This extensive investigation of the implementation of differentiated instruction and the use of differentiated authentic assessments in middle schools was committed to uncovering contextual supports and barriers to implementation in public middle schools. Based on the previous work of change theorists (Basica & Hargreaves, 2000; Fullan, 1995; Joyce and Showers, 1996; Lortie, 2002), this study examined the effects of staff development, in partnership with the contextual realities of each school, on teacher implementation. Recurring themes like time, support, strong leadership, and teacher will to implement, mirror findings of other similar implementation studies (Evans, 1996; Fullan, 1993) that examine the effects of professional development on program implementation (Brighton et al., 2005, p. 313). Regardless, this study argues that while there can be valuable lessons learned from implementation studies like the one conducted
by Brighton et al. (2005), seeking to understand the conditions or causes of effective implementation through teacher learning, understanding and sensemaking of the innovation, provides a more complete description of the implementation of differentiated instruction.

Following the position taken by Coburn and Stein (2006) that policy implementation is “a process of learning that involves the gradual transformation of practice via the ongoing negotiation of meaning among teachers” (p. 26), this study examined the variables that effect teacher learning and the implementation of differentiated instruction. Unlike previous studies examined, this study attends to the problem of implementing differentiated instruction from the perspective of teacher learning and the examination of variables that influence the construction of meaning for teachers. Existing research has not examined why the implementation of differentiation has not spread more rapidly within schools nor have the causes of shallow implementation that persists (Tomlinson, 2008) been adequately investigated. Utilizing a sample of teachers who have been identified as exemplary implementers of differentiated instruction; this dissertation explores how they have come to learn and understand this complex instructional practice and what contextual supports have facilitated their learning. Examining these model practitioners may help to shed light on what steps need to take place in schools and districts to facilitate more widespread and deep implementation of differentiated instruction.

**Purpose of the Study**

To explore the implementation of differentiated instruction at the middle school level and to describe the relevance and need for this approach to examining teacher
implementation, this dissertation has outlined the pervasiveness of differentiated instruction in educational policy and reform initiatives, examined the existing definitions of differentiated instruction in educational literature, outlined some of the effects of differentiation, investigated the difficulties of understanding and implementing differentiated instruction, and reviewed relevant implementation studies that target differentiated instruction. To further investigate differentiated instruction, the author explores implementation as an outcome of teacher learning and investigates the influences that have directly affected the construction of meaning around this complex instructional strategy. Drawing on research from existing studies that examine the implementation of policy and policy messages as a learning process (Coburn, 2005; Coburn & Stein, 2006; Cohen & Hill, 2001; Honig, 2006; Spillane, 2004) that is influenced by variables like the teachers as individuals (Coburn, 2005; Spillane, 2004; Spillane, Reiser & Gomez, 2006; Weick & Sutcliffe, 2009), existing communities of practice (Coburn, 2005; Coburn & Stein, 2006; Honig, 2006; Lave & Wenger, 1991; Spillane, 2004; Spillane, Reiser & Gomez, 2006; Weick, 2009; Wenger 1998) and leadership within the organization (Coburn, 2005; Coburn & Stein, 2006; Honig, 2006; Spillane, Reiser & Gomez, 2006; Tomlinson, 2000; Weick, 2009).

Utilizing the existing sensemaking and implementation literature as the vehicle to explore the implementation of differentiated instruction, this study seeks to contribute to the existing literature on two important levels:

1. the study contributes on a practical level, to school district leadership and school level leadership regarding the circumstances that exist in schools that have effectively implemented differentiation and the influence of variables
like individual characteristics, context and leadership roles on teacher sensemaking and of complex instructional strategies like differentiated instruction.

2. the study contributes to a gap in research that exists around examining the implementation of differentiated instruction from the perspective of teacher learning, utilizing the sensemaking and situated learning theories.
CHAPTER 2

REVIEW OF THE LITERATURE

“We don’t see things as they are, we see things as we are”

Diarsit Anis Ninn

At the heart of this study is an investigation of how knowledge about a specific instructional strategy, differentiated instruction, is learned, communicated within the organization and implemented by individual teachers. In seeking to understand how differentiated instruction is implemented, attention must be given to the nature of and influences on teacher learning and how knowledge that is gained or transferred by individuals is fully actualized as classroom practice. To gain insight into the implementation of differentiated instruction in public middle schools, this chapter reviews existing policy implementation research, examines sensemaking and situated learning theories and their relevance to teacher learning and provides a more detailed discussion of the mediating variables that influence teacher learning and ultimately, the implementation of differentiated instruction.

Policy Implementation

According to Fullan (2009) “Creating change in education is easy. Many governments have done it by changing funding or policies or information or governance structures. However, these changes are not necessarily improvements” (p. 190). Whether written into general education reform, federal law to support the needs of special education students, or state statute to guide the development of a teacher evaluation process that connects student performance with teacher pay, federal and state governments are making it clear that all students should be the priority of all schools.
The challenge from the policy perspective is how to create meaningful change at the classroom level with policy that is developed from the highest and arguably most removed levels of decision-making. Hargrove (1975) refers to policy implementation research as the “missing link” in fully understanding how to make the desired outcomes of public policy a reality. While there is definitely no shortage of policy implementation studies or approaches to examining the effects of policy, it is evident that there is not a silver bullet, or a single model that can effectively explain the many influences on successful or failed implementation efforts. In fact, approaches that are often taken to examine the effects of educational policy, discount important cultural and organizational factors in an effort to reduce costs or to create a more persuasive argument for a pre-established agenda (Honig, 2006). However, as the demands of educational policy become more complex and arguably more interconnected with the daily business of schools, implementation studies need to respond by taking a more holistic and multidimensional approach (Honig, 2006). Examining policy implementation in schools from a sociocultural perspective that takes into account influences like the culture within the organization, professional learning communities, and leadership (Coburn, 2004; Coburn & Stein, 2006), provides a valuable inquiry into policy implementation that leads to a change in classroom practice (DeLeon, 2002; Spillane, 2004).

Unlike previous studies that have taken a more narrow approach to examining the effects of educational policy on student achievement, this study takes the position that policy implementation is dependent upon teacher learning and claims that to understand implementation of policy, requires a more full investigation of the influences on how teachers construct meaning about policy messages and expectations. Implementation
scholars have long wrestled with the idea of operationalizing policy and understanding the factors that impact implementation as the policy travels from the capitol to the classroom (Spillane, 2004). Honig (2006) argues:

[t]hose interested in improving the quality of educational policy implementation should focus not on what’s implementable and what works but rather investigate under what conditions, if any, various education policies get implemented and work. Implementability and success are the product of interactions between policies, people, and place. (p. 2)

While it is clear that educational policy is developed by policymakers who hope to see a change in practice or condition through mandated reform, we also know that no one policy gets implemented successfully everywhere (Honig, 2006).

Examining the circumstances or conditions that lead to the effective communication and implementation of policy, then, is increasingly important in a time of increased accountability and mandates about classroom instruction. While previous implementation research generally reveals that policy, people, and plans affected implementation, current implementation research efforts should be more concerned with uncovering the various mediating dimensions and how and why interactions among these dimensions shape implementation. Undeniably, there are many factors that play into the construction of meaning that educational leaders and classroom teachers go through in interpreting, understanding and ultimately in choosing to enact or ignore the policy message. The value of this multiple case study is that it provides the opportunity to gain insight into the circumstances that exist and have supported the implementation of
differentiated instruction, a complex instructional strategy, in three high-performing middle schools, in three different districts.

**Sensemaking Theory**

In conjunction with existing policy implementation research, this study utilizes sensemaking theory (Coburn, 2004; Coburn & Stein, 2006; Honig, 2006; Weick, 2009) to provide guidance in understanding how teachers talk about, share, understand, and implement policy expectations like differentiated instruction. While the basic premise of the sensemaking theory is relatively straightforward, the theory is filled with hypotheses and findings from previous studies that make getting at the heart of how individuals and organizations understand and respond to their world, a bit more complicated.

Sensemaking theory describes the process that individuals engage in, through extracting cues to help them decide what is relevant, useful and acceptable, to construct meaning about an event or issue. Weick (1995) describes sensemaking by stating that “extracted cues provide points of reference for linking ideas to broader networks of meaning and are simple, familiar structures that are seeds form which people develop a larger sense of what may be occurring” (p. 50). To state it another way, sensemaking is an unfolding “sequence in which people concerned with identity in the social context of other actors engage in ongoing circumstances from which they extract cues and make plausible sense” (Weick, Sutcliffe, & Obstfeld, 2009, p. 409). At a relatively basic level, sensemaking theory is concerned with providing clarity about how individuals construct meaning about the world or worlds in which they exist. Sensemaking provides a description and an explanation of how individuals learn from, within, about, through and in the context of the organization. The sensemaking framework is critical to this study as
the goal is to gain insight into the influences that have helped to shape teacher understanding of differentiated instruction and how, in partnership, those influences and the individual teacher’s understanding of differentiated instruction affect teacher learning and implementation.

In addition to examining the individual and his or her construction of meaning about policy expectations, it is helpful to understand the role of the individual within the organization and how meaning is constructed and shared. Weick (2009) describes sensemaking in the organization as “one way of making the generic existential strategy of organizing more concrete is to propose that organization emerges in communication” and that organizations “are talked into existence locally and are read from the language produced there” (p. 5). This conceptualization of existence, with respect to organizational identity, is founded on the notion that individuals within the organization use language and expressed ideals that in totum, create the organization. In other words, “the distributed organization literally does not know what it knows until macro-actors articulate it” (Weick, 2009, p. 5). In essence, how members of an organizations think about, talk about and describe their interaction within the organization, literally defines the organizational reality. As Coburn (2001) summarizes:

>[s]ensemaking theorists are concerned with the ways that the social structure and culture of organizations develop and change. They argue that cognitive understandings (“the way things are”), norms (“the way things should be”), and routines (“the way things are done”) are socially constructed over time through interpersonal interaction and in dialogue with messages from the environment. (p. 17)
With respect to this study, it is imperative to explore how educators talk about their organizations, how they participate in the construction of meaning in and about the organization and to explore the role that differentiated instruction plays in the language used to construct each school’s identity. The teachers and schools selected for this multi-case study are from schools that have shown impressive performance as well as demonstrated growth for a large percentage of students. It was insightful to understand how teachers have come to know about differentiated instruction, how they are supported in implementation and the kinds of incentives that are in place to perpetuate the practice.

Utilizing the sensemaking theory, then, we accept that “activities and structures of organizations are assumed to be determined in part by micro-momentary actions of their members” (Porac, Thomas & Baden-Fuller, 1989, p. 398, Weick, 1990). With respect to schools, we can assume that the whole of the organization is comprised from the resulting beliefs, actions and behaviors of the individuals within the school. Innovations like differentiated instruction, then, must penetrate the contextual reality of each school before being considered for potential adoption by the individual. Weick (2009) describes this process by stating that:

[w]hen people develop the capacity to act on something, then they can afford to see it. More generally, when people expand their repertoire, they improve their alertness. And when they see more, they are in a better position to spot weak signals which suggest that an issue is turning into a problem. (p. 32)

To make the important transition from an external idea to an implemented part of a culture, requires that the members within the organization know how to define, share,
enact and provide feedback about the idea or innovation as members within the culture or organizational community.

When innovation, reform, or change is introduced, whether it is policy related or not, pressure is introduced. Weick (1990) argues that “pressure leads people to fall back on what they learned first and most fully” (p. 576), making the implementation of a new innovation even more challenging, especially if it extends beyond the mutual understanding of the organization’s identity. In this case, if schools were ardent supporters of a back-to-basics approach that relied heavily on more traditional, less differentiated methods, the understanding and implementation of differentiated practices would be more difficult and would potentially not happen. What the leadership identifies as valuable and what individual members choose to act on and how those actions affect the beliefs and actions of others is critical to understand in illuminating the conditions for implementation.

With respect failed policy implementation at the school level, we know that schools have long been assumed to choose not to implement policies and policy messages (Odden, 1991). However, studies that have examined implementation from the cognitive perspective have uncovered that schools and school districts often make decisions about implementation based on organizational needs, beliefs and desires as well as depth of understanding of about the policy expectations (Spillane, 2004). In the current climate of accountability and measurable results, however, the focus of policy becomes more about compliance and proving acquiescence than about making sense of the policy or policy messages for the organization. Sutcliffe and Weick (2009) argue that “when action is the central focus, interpretation, not choice, is the core phenomenon” (p. 79). Weick (2009)
describes the action of assuming the artificial role of implementer as “façade maintenance” (p. 13). Identifying façade maintenance versus an actual change in practice is essential for this study seeks to understand sustainable and real implementation of a complex instructional strategy.

The sensemaking theory provides a framework to guide the examination of policy implementation in schools from the perspective of teacher learning and the influences on the construction of meaning for school-level implementers.

**Situated Learning Theory**

Critical to understanding the circumstances that exist in classrooms where differentiated instruction is successfully implemented, is having a clear picture of how the learning of the innovation was introduced to the teacher and what influenced his or her construction of meaning and enacting the strategy. To that end, in partnership with the sensemaking theory, fundamental elements about learning that are explicated in the situated learning theory were utilized to illuminate some of the variables that influence teacher learning.

Lave and Wenger (1991) define learning as a “situated activity” in which “learners inevitably participate in communities of practitioners and that mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of community” (p.29). The concept of communities of practice, for this study, refers to “a group of individuals who, through the pursuit of a join enterprise, have developed shared practices, historical and social resources, and common perspectives” (Coburn & Stein, 2006, p. 28). In short, situated learning is a theory of learning that theorizes that learning is an integral and inseparable aspect of social practice
in which participants negotiate and renegotiate meaning of the world (Lave & Wenger, 1991, p. 31). The theory suggests that learning in organizations has too often been a process or an act that is done to the learner and represents an input/output model. In schools, this is most evident for teachers in professional development activities in which the target learning goal or “teaching curriculum” is the focus of the training and urges compliance and the use of key assimilation words rather than real, practice-changing learning (Lave & Wenger, 1991, p. 97). In contrast to this traditional model of professional learning, situated learning theory paints a more holistic picture of learning. In this construct, a new member to the community or “newcomer” learns from veteran staff members or “old-timers” from full participation in the community. By learning the language, actions, norms and beliefs of the organization through the constant work of developing and redeveloping the community, newcomers evolve into a fully participating, actively engaged, veteran staff members (Lave & Wenger, 1991, p. 100). The theory outlines that learning is a “whole person” activity that focuses on personal and professional change, rather than focusing on receiving a body of factual, decontextualized knowledge about the world that is meant for simple replication. Based on this theory, the agent, the activity and the world mutually constitute each other (Lave & Wenger, 1991). In other words, participation in social practice – subjective as well as objective – suggests a very explicit focus on the person-in-the-world, as a member of a sociocultural community. This focus in turn promotes a view of knowing as activity by specific people in specific circumstances (Lave & Wenger, 1991).

For this study, which is focused on understanding the learning of teachers as a necessary precursor to effective implementation of differentiated instruction, situated
learning theory is useful in providing a structure that lays out the learning process as an interactive social practice. This theory moves beyond traditional constructs of learning that are wholly cognitive and isolated to the individual and gives credence to the notion that learning involves the whole person as a participant within the sociocultural organization. Lave and Wenger (1991) describe socially situated learning by stating that “learning, thinking, and knowing are relations among people in activity in, with, and arising from the socially and culturally structured world” (p. 51). Schools represent a complex and compelling organization to consider, through the lens of the situated learning theory, as student learning is the organization’s goal and is spoken about often among its members, though a common belief about quality teaching and identifying learning in schools does not appear to persist. Further, we know that teacher learning is critical to the success of teachers and their students (Coburn, 2005; Coburn & Stein, 2006, Lave & Wenger, 1991; Weick, 2008) and an investigation into the needs, supports and barriers to teacher learning is essential in gaining insight into the implementation of policy ideals and messages.

**Exploring the Mediating Variables**

As previously indicated, the mediating constructs or variables that received the most attention in this study are:

1. teacher as an individual, including pre-existing knowledge, training, beliefs about instruction and their personal connection to differentiated instruction (Coburn, 2005; Spillane, 2004; Spillane, Reiser & Gomez, 2006; Weick & Sutcliffe, 2005),
2. influence of existing communities of practice in each school (Coburn, 2005; Coburn & Stein, 2006; Honig, 2006; Spillane, 2004; Spillane, Reiser & Gomez, 2006; Weick, 2009), and

3. the effect of leadership, both formal and informal, on teacher sensemaking about differentiated instruction (Coburn, 2005; Coburn & Stein, 2006; Honig, 2006; Malen, 2006; Spillane, Reiser & Gomez, 2006; Tomlinson, 2000; Weick, 2009).

**The Individual**

While there are several factors that implementation scholars consider in understanding effects of variables on the implementation of a new idea or concept, the individual who is most directly responsible for implementing is essential to include for examination. Honig (2006) states that “past decades’ research tended to focus on groups of implementers based on their formal professional affiliations…contemporary studies are more likely to probe differences among subgroups” (p. 16). To understand the implementation of differentiated instruction at the classroom level, this study investigates how individual teachers have gained knowledge about differentiation and how they continue to learn about the innovation and its implementation within the context of the school. Hill (2001) argues that what teachers implement is influenced by their learning and interpretation stating, “more recent interpretive work emphasizes that implementers do not distort policy messages but construct meaning (Coburn, 2001; Cohen, 1990; Cohen & Hill, 2001; Hill, 2001; Lave & Wenger, 1991; Spillane, Reiser & Reimer, 2002). In addition to exploring how teachers learn about differentiation and the supports that are in place to continue that learning, participants in this study were asked to respond to questions that intended to uncover personal beliefs and ideals about instruction.
Coburn and Stein (2006) state that “how teachers enact policy is shaped by pedagogical assumptions and preexisting practices of their colleagues” (p. 27). Teachers construct their reality and definitions of teaching based on preexisting knowledge, beliefs, experiences, training and personal challenges. Similarly, Lave and Wenger (1991) point out that “if the person is both member of a community and agent of activity, the concept of the person closely links meaning and action in the world” (p. 122). This study attends to the individual within the organization as a key contributor to the construction of meaning about policy and about the organization as a whole and provides valuable insight into the problem of implementing differentiated instruction.

**Communities of Practice**

To examine an instructional strategy that is being mandated by policy and is expected to be in place in all classrooms, taking a critical look at contextual factors of the organization is essential. As Honig (2006) points out, “researchers have come to reveal that people’s participation in various communities and relationships is essential to implementation” (p. 17). To more narrowly discuss the influence of context within the selected organizations, the concept of communities of practice (Coburn & Stein, 2006; Gallucci, 2003; Lave & Wenger, 1991) were utilized to provide guidance in understanding some of the social influences on teacher learning.

Arguing that learning is a social process in which individuals participate in the negotiation and renegotiating of meaning within an organization or community, Lave and Wenger (1991) define communities of practice as “a set of relations among persons, activity, and world, over time and in relation with other tangential, overlapping communities of practice” (p. 98). Similarly, Coburn and Stein (2006) share that
“teachers’ organizational context and patterns of interactions shape how they learn” (p. 25) (Coburn, 2001; Gallucci, 2003; Hill, 2001; McLaughlin & Talbert, 2001; Spillane, 1999). Further, when it comes to teacher learning becoming actionable and implemented within the classroom, schools that have shared goals, encourage collaboration, focus on student learning, and work toward building social trust are more likely to make change in their instructional practice (Coburn & Stein, 2006, p. 26; McLaughlin, 2006). Spillane, Reiser and Gomez (2002) argue that “an individual’s situation or social context fundamentally shapes how human cognition affects policy implementation” (p. 56).

Including the concept of communities of practice in this implementation study provides a means of gaining more insight into the micro-processes of teacher learning and sensemaking.

Throughout the literature, the notion of context is a recurring variable in better understanding the implementation of policies and policy expectations. The ability that this study has in exploring the implementation of differentiation with three exemplary cases that are nested within three different schools which are in three separate school districts, proved useful in seeking to understand the conditions, influences and circumstances that exist for successful implementation.

**Leadership**

Beyond understanding the individual as implementer and investigating the communities of practice within which implementers work, share, develop and enact instructional expectations, this study includes the concept of leadership. Leadership is defined primarily by including individuals who are formally recognized leaders within the organization. The efforts of identified school leaders, like school administrators,
were examined to understand how they influence classroom level implementers make sense of policies and policy expectations. Coburn (2005) argues that “school leaders interpret and adapt policy in ways that are influenced by their preexisting understandings and their overlapping social contexts inside and outside schools” (p. 479). Similarly, Weick (2000) makes the point that “within the framework of sensemaking, management sees what the front line says and tells the world what it means. In a newer code, management doesn’t create change. It certifies change” (p. 239). Sharing a related perspective, Fullan (2001) states, “effective leaders persist in getting to know teachers, understanding their particular strengths and needs, and listening to their ideas and concerns” (p. 5). Further, Coburn (2005) reports, “school leaders mediated teachers’ connections to policy ideas by bringing in and privileging some policy messages while filtering out others” (p. 489). While there has been hearty discussion about the effect of leaders that are informal or not formally recognized on the sensemaking and implementation process, this study focuses primarily on formal leaders and their influence on teacher learning, sensemaking and ultimately, the implementation of innovations like differentiated instruction.

In seeking to understand how differentiated instruction is implemented, attention was given to the nature of and influences on teacher learning and how knowledge that is gained or transferred by individuals, travels across the gap of learning to being fully actualized as classroom practice. To gain insight into the implementation of differentiated instruction in public middle schools, this chapter provided a review of existing policy implementation studies, examined sensemaking theory and its relevance to teacher learning and implementation, explored situated learning theory, and provided a
more detailed discussion of the mediating variables that influence teacher learning and
the implementation of complex instructional strategies.
Chapter 3

Methodology

“People only see what they are prepared to see”

-Ralph Waldo Emerson

Taking the position that the implementation of differentiated instruction is the result of ongoing communication, negotiations of meaning and learning among and between all members of the school community, this qualitative study explores the supports and barriers that influence how teachers learn about and implement policy expectations. To more precisely investigate the implementation of differentiated instruction, from the perspective of teacher learning, three focal points have been identified. The mediating variables of teacher as a person or individual, communities of practice and influences of formal leaders within the school were examined to explore how expert differentiating teachers have come to know, construct meaning about and implement this complex instructional strategy. Developed to outline the context and process that was used to investigate the three aforementioned focus areas, this chapter addresses the following aspects of the study: research questions, description of the multiple case study design, site selection, individual case selection and description, data collection, and data analysis.

Research Questions

While the overarching focus of this study is to understand the conditions that exist for teachers to learn about, gain mastery of and successfully implement differentiated instruction, the following specific questions guide this investigation.
1. How have expert differentiating teachers gained mastery of differentiated instruction and how do they continue to develop their understanding and implementation?

2. What obstacles and supports exist that influence the successful implementation of differentiated instruction in public middle schools?

3. What effect does school leadership have on teacher sensemaking, and implementation of differentiated instruction?

4. How do communities of practice, both formal and informal, have on the construction of meaning, sharing of practice and continuous learning of differentiated instruction?

**Multiple Case Study Analysis**

This study is built on the belief that a qualitative exploration, via a multiple case study analysis, is the best way to answer the question of how teachers learn about, construct meaning and successfully implement instructional strategies like differentiated instruction. A qualitative research design provided a unique and powerful opportunity to more comprehensively explore the influence of factors like the individual teacher, communities of practice and leadership within schools, on the implementation of differentiated instruction. As Creswell (2007) states, “The intent of qualitative research is not to generalize the information but to elucidate the particular, the specific” (p. 126). Likewise, Maxwell (2005) argues that “The main strength of qualitative research is its ability to elucidate local processes, meanings, and contextual influences in particular settings and cases” (p. 90). While examining the implementation of differentiated instruction from the perspective of teacher learning has not yet been done, this study argues that there is a need to seek and understand how teachers make sense of and enact
differentiated instruction. As previously reported, differentiated instruction is often assumed to be occurring and is commonly reported as being in place (Tomlinson, 2008); however, this study provides the opportunity to examine what is actually occurring in the classroom, how teachers talk about the instructional strategy, and the influence of collegial discourse and the effects of leadership within each of the selected sites.

By going beyond the simple, concrete analysis of standardized test scores or the analysis of surface-level data collected to populate a massive database, this study captures practical knowledge, language and practices that describe the reality that exists between what is intended by educational reform and what is happening within the classroom. As Yin (2003) states, “The most important [application of case studies] is to explain the perceived causal links in real-life interventions that are too complex for the survey or experimental strategies” (p. 15). A foundational component of this study is to uncover and understand the causal relationship between the influences that effect teacher learning and their construction of meaning and implementation of differentiated instruction. To examine something as multi-dimensional as the implementation of differentiated instruction, a multiple case study was employed to frame this in-depth investigation. As defined in the literature, “the essence of a case study is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result” (Yin, 2003; Miles & Huberman, 1994; Stake, 2006). The intent of this study is to go beyond simple descriptions of implementation by taking a more sophisticated approach to exploring how teachers learn about differentiated instruction and the influences on teachers that effect the construction of meaning and implementation. Yin (2003) makes a good argument for the use of a multi-case design stating, “Multiple-case designs have distinct advantage; The evidence from multiple cases is often considered more compelling, and the overall
study is therefore regarded as being more robust” (p.46). By utilizing a variety of data sources, like direct observations, interviews, journaling, and the review of existing documents, the case study allows for a more complete investigation of the influences, behaviors and expectations that directly affect outcomes and provides an opportunity to explain presumed causal links that are too complex for the survey or experimental strategies (Yin, 2003, p. 15). Employing a research strategy that is all-encompassing and includes the collection of multiple data points within a real-life context, provided the opportunity to explore and more fully understand the complexity of and influences on teacher learning and the implementation of differentiated instruction.

Foundational to the development of a case study, was the development of a clear theoretical framework. In this study, a complex instructional strategy was examined through the lens of sensemaking and situated learning theories along with current findings outlined in policy implementation literature. From the conceptualization of the particular angle used to address this topic, to the development of the research questions, selection of sites and cases and the analysis of the findings, the theoretical framework served as the backbone of the study. Figure 3.1 is a visual representation of the study design and connections to the theoretical framework.
Figure 3.1. *Visual representation of multiple case research design*

Theoretical Framework

Research Questions

Site and Case Selection

- **Case #1**
  - Interviews
  - Observations
  - Journal/Document Collection
  - Case Study Report

- **Case #2**
  - Interviews
  - Observations
  - Journal/Document Collection
  - Case Study Report

- **Case #3**
  - Interviews
  - Observations
  - Journal/Document Collection
  - Case Study Report

Cross-case Analysis

Discussion of Findings

Conclusions
Site Selection

In a case study, especially a multi-case study, selecting cases that are rich in information and aligned closely with the research question and purpose is essential. Patton states, “the purpose of purposeful sampling is to select information rich cases whose study will illuminate the questions under study” (p. 46). The purpose of this study is to understand the conditions that exist for teachers to learn about and implement differentiated instruction and acknowledging that that this examination cannot study everyone, everywhere, doing everything; parameters were established (Miles & Huberman, 1994, p. 36). This study was limited to classroom teachers at the middle school level within the public school system in the state of Colorado.

Colorado was selected for this study primarily, because it is a local control state. What this means is that many pre-kindergarten through 12th grade public education decisions, on issues such as curriculum, personnel, are made by the 176 school district administrators and their school boards. While the State Board of Education and Colorado Department of Education are in place to provide guidance and direction for local districts on statewide educational issues, and act as a link to many Federal and State programs and services (Colorado Department of Education, 2010, para. 1-2), none of these organizations or agencies provide specific expectations or mandates about how to meet the various demands outlined in policy. The local control model allows for a great deal of freedom for school districts and schools to make sense of and establish locally accepted approaches to meeting the demands of the state and federal governments. Employing a local control state, like Colorado, was extremely valuable to this study as the contextual factors of individual teachers within each school that lead to teacher
learning, understanding, and implementation of complex instructional approaches were explored. Including schools and school districts that have the freedom to set school and district goals, develop collaborative structures and professional opportunities for teachers to learn about differentiated instruction, provided a rich set of contexts from which to collect data.

Knowing that this study would not be able or best served to explore all school districts within the state of Colorado, the scope of school districts in the state was narrowed. To understand how the sample districts for this study were selected, it is important to know how the state is organized. In the state of Colorado, there are twelve “service areas”. These service areas are established by the state to provide a means of talking about, problem solving and providing support to areas that have common questions, needs, concerns and advantages. Service areas are determined based on geographical location, size of districts within the area and potential needs of the districts within the designated areas. Of the twelve service areas, only two service areas, areas number 6 and number 7, contain districts that have representation of urban, suburban and rural districts. For this reason, paired with the principle investigator’s prior knowledge and access to information for the school districts in the selected service area, service area 7 was selected. Therefore, only the public school districts that are in service area 7 were examined for inclusion in this study. To pare down the possible sites further, only middle schools in the selected service area were reviewed for further examination and inclusion in the study.

The focus on the middle school level was intentional for this study because middle schools have often been excluded from studies that examine instructional practice
and has been referred to as “the forgotten middle” (Sizer & Meier, 2006), and have specifically not been the subject of research on the implementation of differentiated instruction, from the perspective of teacher learning. Additionally, when compared to the elementary level, which has classroom teachers who often teach all subjects, the middle school level allows for data collection and teacher observation by content area, providing greater opportunity to explore the concept of expertise and the implementation of differentiation within a specific content area. Further, the middle school level is targeted for this study because, when compared to the design of classes at the high school level, the content of the classes are typically delivered in a more general manner for students of all abilities, placing a greater demand on the need to differentiate instruction. For instance, in middle school, students take language arts classes by grade level, which are classes that are not typically leveled beyond that criterion. In high school, classes are more specialized and are offered by level, like Honors English or AP English. In classes with a selection criterion, like Honors or AP, there is arguably less of burden to differentiate for a full spectrum of abilities. Having a more general grouping creates an obvious difference in need for teachers to differentiate instruction, which was critical to this study. Working with middle school level classrooms that have a greater need to prioritize differentiated instruction, based on the greater variance of students and student need, provided a wealth of information in exploring the circumstances that exist within schools for differentiated instruction to be effectively implemented.

To identify the middle schools for inclusion in this study, results from the 2009 Colorado Student Assessment Program (CSAP) were examined, by district within service area 7 to identify the highest performing school districts and schools. CSAP data is
collected across the state of Colorado and is utilized by the Colorado Department of Education, school districts and schools to monitor overall student academic performance as well as individual student growth in reading, writing, math, and in some grades, science. To provide guidance in understanding the collected data, with respect to measuring individual student growth, the Colorado Department of Education developed The Colorado Growth Model. This model was designed to create a framework for the collected data and to help stakeholders understand how individual students are progressing longitudinally from year to year and provides a common measure to show how much growth is needed for each student to reach state standards (Colorado Department of Education, 2010, para. 2). Examining schools that were both high performing, as measured by the percentage of “proficient” and “advanced” students, as well as being exemplary based on individual student growth, was imperative in identifying schools that had academic programming designed to indicate high performance as well as to facilitate individual student growth from year to year.

Existing literature supports the claim that school districts and individual schools that perform well, in terms of overall students achievement, are likely to be locations where high quality differentiated instruction is occurring (Brighton, Hertberg, Moon, Tomlinson, & Callahan, 2005; Lewis & Batts, 2005; Noble, 2004; Rock, Gregg, Ellis, & Gable, 2008; Tieso, 2001; Tieso, 2005; Tomlinson, 2008). To select individual sites, or schools that are most likely to contain expert differentiators, all schools in service area 7 were graphed using the Colorado Growth Model SchoolView data management tool (www.schoolview.org). To further delineate and identify high performing schools by content area, sites were sorted by performance in reading, writing and math. For this
study, the content areas of reading and writing were isolated to narrow the scope of the study and because these two tested areas are subject of much debate nationally, with respect to educational reform policy. Additionally, the content areas of reading and writing fit the model of this study, because unlike mathematics courses at the middle school level, English/language arts classes are not commonly leveled by student ability, requiring teachers to meet the needs of students with a wider range of abilities. Utilizing data from classes that all students take and that are not presorted by ability creates a more information rich scenario for teachers who are expected to meet the unique needs of each student within the classroom. Therefore, schools in service area 7 were sorted by reading and writing scores from the 2009 CSAP to identify the highest performing schools.

The result of the initial sort was that there were no schools that had the highest growth rating and highest overall performance score in both reading and writing. What did emerge were four schools that held the top four places for reading and writing. The four identified schools came from three school districts located in service area 7. When the building principals were contacted, all but one of the four schools chose to participate in this examination of practice. The result is that three schools from three different districts have been selected and have been given district-level IRB approval, in addition to support given by the University of Colorado at Colorado Springs (IRB #10-099), to pursue this multiple case study.

While a description of the included school districts and schools will be outlined, the names of the schools and school districts have been changed to provide guaranteed anonymity for this study. From this point forward, the districts included in this study will be referred to by number and the schools associated with those districts were given
fictional names. School District #1 is represented by Acadia Middle School (see Table 3.1), School District #2 is represented by Berliner Middle School (see Table 3.1) and School District #3 is represented by Casper Middle School (see Table 3.1).

Table 3.1

*Overview of School Districts and Selected Middle Schools*

<table>
<thead>
<tr>
<th>District</th>
<th>School District #1</th>
<th>School District #2</th>
<th>School District #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students</td>
<td>29,708</td>
<td>22,620</td>
<td>5800</td>
</tr>
<tr>
<td>Number of Middle Schools</td>
<td>9</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Percentage Title I</td>
<td>51.12%</td>
<td>10.38%</td>
<td>8.62%</td>
</tr>
<tr>
<td>District Type (Urban, Suburban, Rural)</td>
<td>Urban</td>
<td>Suburban</td>
<td>Suburban</td>
</tr>
<tr>
<td>School</td>
<td>Acadia Middle School</td>
<td>Berliner Middle School</td>
<td>Casper Middle School</td>
</tr>
<tr>
<td>Grade Levels</td>
<td>6,7,8</td>
<td>6,7,8</td>
<td>7,8</td>
</tr>
<tr>
<td>Number of Students</td>
<td>704</td>
<td>987</td>
<td>818</td>
</tr>
<tr>
<td>School Rating</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
<tr>
<td>Student Race/Ethnicity</td>
<td>- American 1%</td>
<td>Less than 1%</td>
<td>1.5%</td>
</tr>
<tr>
<td></td>
<td>Indian/Alaskan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian/Pacific 2.1%</td>
<td>5%</td>
<td>2.5%</td>
</tr>
<tr>
<td></td>
<td>Islander 3.3%</td>
<td>5.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td></td>
<td>Black or African American 26%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>White or Caucasian 68%</td>
<td>80%</td>
<td>87.5%</td>
</tr>
<tr>
<td></td>
<td>Native Hawaiian/Pacific Islander Less than 1%</td>
<td>Less than 1%</td>
<td>Less than 1%</td>
</tr>
<tr>
<td>Percentage Free and Reduced Lunch</td>
<td>41 %</td>
<td>16%</td>
<td>8%</td>
</tr>
<tr>
<td>Special Education</td>
<td>8.1%</td>
<td>7.5%</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

**Case Selection**

Once the sites were selected, identifying the right individual teachers who are exemplary differentiating teachers became a priority. Because the multi-case design
works with small numbers of cases to gain more depth than other study designs (Miles & Huberman, 1994, p. 27), selecting the right cases for the study was essential. Each of the cases that were selected for this study represents teachers who were identified by their supervising administrators as expert differentiators. These cases also completed the “Teacher Questionnaire to Gain Baseline Data on Differentiated Practices” developed by Tomlinson, Brimijoin, and Narvaez (2008) and scored among the highest of the initial group of potential cases. In addition to selecting teachers who were identified as expert differentiating teachers, through self-reporting as well as by administrators and colleagues, the selected cases have all exceeded the three year probationary period in their schools and have reached an “expert” status as indicated by years completed in the profession (Hogan, Rabinowitz, & Craven, 2003). The participating individuals work within schools that have received an “Excellent” rating by the Colorado Department of Education and have a relatively low percentage of racial diversity as well as a small percentage, less than 50%, of students receiving Title I support. In this multiple case study, teachers, teacher learning, and teacher practice was the focus, nested within the context of each of their respective schools and districts. To understand how teachers make sense of differentiated instruction and how it is implemented within the general education classroom, understanding the context that the selected teachers operate within was essential.

To gain insight into the influences and circumstances that exist for teachers to fully understand and implement differentiated instruction, the individual teachers for this study needed to be expert differentiators. Maxwell (2005) describes this type of participant selection as a “purposeful selection” (Maxwell, p. 88), or intentionally
choosing cases that have the greatest chance of providing useful data to answer the research questions. Maxwell (2005) further states that the best selection for this type of study should be “people who are uniquely able to be informative because they are expert in an area, or can illuminate what is going on in a way that representative cases cannot” (p. 88; Weiss; 1994, p. 17). Similarly, Patton (2002) describes this kind of purposeful case selection by stating, “The logic and power of purposeful sampling derive from the emphasis on in-depth understanding” (p. 55). The selected cases, then, are information rich in providing insight into how teachers have learned about, implement and continue to develop practice around a complex instruction strategy like differentiated instruction. Identifying teachers who self report mastery with differentiated instruction as well as having other sources who can support that claim was valuable and provided additional credibility to the selection of individual teachers.

With the sites selected and the criteria for selection of individual cases established, administrators in charge of supervising the English/language arts department were contacted in each school. After providing a brief narrative about the purpose and needs of this study, the identified building administrators at each of the three selected sites offered names of teachers who they believed fit the criteria. The first level of filtering for cases resulted with nine identified cases. After receiving approval from all districts and building level principals, each of the nine cases were contacted and asked to complete a brief questionnaire, which can be found in Appendix B. Of the nine teachers contacted, six of the identified cases responded with a questionnaire that aligned well with the working definition of differentiated instruction for this study that was outlined in Chapter 1. The final level of selection was done using Tomlinson’s (2008) “Teacher
Questionnaire to Gain Baseline Data on Differentiated Practice”, a 35-item self-reflection pre-assessment tool on the basics of differentiation in the four domains. Using results from the questionnaire and pre-assessment and after speaking with each of the remaining six teachers, four expert differentiators were selected for this study. While all six of the participants were recognized as expert differentiators by their administrators, the scores of the two teachers who were not invited to continue indicated that they were not familiar with key concepts and terminology of differentiated instruction. For example, concepts like “tiering” and “flexible grouping” were marked as “unsure of the term” on the questionnaire. In contrast, the four selected cases indicated that there was a general understanding of the concepts associated with differentiated instruction that were outlined in the questionnaire. The average scores for selected teachers were all at or above 3.5 on a 4 point scale, indicating awareness and the reported use of the identified strategies in practice.

Although four cases do represent a small number, the expert cases were selected purposefully and fall within the parameters of the number of cases needed to create a rich multiple case study (Creswell, 2007; Miles & Huberman, 1994; Stake, 2006; Yin, 2003). While the sample size in a multiple case analysis is small, Yin (2003) suggests that the value of each case within a multiple case study is analogous to having multiple experiments that are connected by a common purpose. For this study, having four cases that were selected as experts in differentiating instruction, provided the opportunity to conduct multiple theoretical experiments to better understand the circumstances that exist in classrooms and schools that lead to effective implementation. Regarding the generalization of a multiple case study design, Yin (2003) states, “the mode of
generalization is analytic generalization, in which a previously described theory is used as a template with which to compare empirical results of the case study” (p. 32).

By gathering data through observation, interviews, journaling, document review and informal conversation over a period of nine months, for each of the cases, this study has expended an exhaustive effort in collecting relevant data and evidence (Yin, 2003, 163) to address the research question that guides this project.

**Introduction of Individual Cases**

To provide the guaranteed anonymity for schools and teachers in this study, the following names of teachers will be pseudonyms. The teacher selected from School District #1 in Acadia Middle School will be referred to as Annette. The teacher selected for representation from School District #2, from Berliner Middle School will be referenced as Bonnie. The third district, School District #3 has two selected teachers who will represent Casper Middle School. These cases will be referred to as Calvin and Carol. Though a complete description of the cases and a summary of the collected data are provided in Chapter 4, a brief description of each case follows.

**Details on the Selected Cases**

Based on preliminary data collection from these cases, some basic information is provided about the current location of each teacher, their years of experience, length of service within their current school, the degrees earned and initial feelings about differentiated instruction.

*Annette.* Over the past eleven years, Annette has taught sixth, seventh and eighth grades in different years at Acadia Middle School in School District #1. Annette is currently teaching 8th grade language arts. Interestingly, Annette has been employed at
Acadia Middle School since graduating college. She earned Bachelor degrees in both Social Sciences and Political Science and has taught both language arts and social studies at Acadia Middle School. Annette is currently enrolled in a Master’s degree program in special education and will complete the program by May 2011. Annette has shared that she has gained most of her basic knowledge about differentiated instruction from her master’s coursework, but can also remember getting some strategies from professional development opportunities offered through the school district. Annette has shared that she believes one of the largest obstacles that prevent teachers from differentiating instruction, is lack of time to plan and organize.

**Bonnie.** Bonnie currently teaches at Berliner Middle School in School District #2. She has been a teacher for the past eight years and much like Annette, has served all of her years of teaching at Berliner Middle School. Bonnie holds a Bachelor’s degree in English and a Master’s degree in Curriculum and Instruction. Bonnie shared that she has learned about differentiated instruction primarily from her own reading, but has had some coursework about tiering instruction in college. When asked to share why she believes that differentiated instruction has not been more widely implemented, Bonnie stated that it is difficult and too many teachers, differentiated instruction takes too much time and is not a realistic instructional practice. Bonnie further shared that she believes that teachers “teach to the middle” and hope that the more advanced students find challenge on their own and that the struggling students find a way to catch up or get what they can out of the instruction.

**Carol.** The fourth case, Carol, is currently teaching at Casper Middle School in School District #3. Carol has 14 years of experience teaching and has spent the last ten
years working at Casper Middle School. Carol has a Bachelor’s degree in Middle School and Library Media. She has taught language arts in 7th grade primarily, but has also taught social studies classes and a media skills class. While Carol is currently teaching in the seventh grade, she does have two years of elementary education experience. When asked to share how she gained her knowledge of differentiated instruction, Carol shared that she has read books about differentiated instruction and that she has participated in some professional development opportunities at her current school. Carol did share that she believes that lack of time for planning and lack of specific information about what differentiation looks like are the two leading causes of differentiated instruction not being implemented more widely and with more success.

**Calvin.** Calvin has been teaching at Casper Middle School in School District #3 for the past three years and has two years of experience outside of the state of Colorado. Calvin has a Bachelor’s degree in History and is close to completing his Master’s degree in Education. Calvin has taught both language arts and social studies in the seventh and eighth grades and is currently teaching language arts exclusively in the eighth grade. When asked where his mastery in differentiated instruction was gained, Calvin shared that he took several methods courses during his college coursework and attended a very useful conference last year that was sponsored by a neighboring school district. When asked to explain potential causes of the implementation challenges that differentiated instruction appears to have, Calvin stated that differentiating instruction takes more time, especially in the initial planning stages. Calvin believes that not having enough time to plan and develop lessons is really the cause of teachers choosing not to implement differentiated instruction.
Methods of Data Collection

To guarantee that the potential and value of this multiple case study was realized, it was imperative that, much like the development of the theoretical framework and the purposeful selection of cases, the data collection was conducted with the purpose of the research in mind as well as an ardent vigilance about validity. Data collection was focused on illuminating the conditions that influence how differentiated instruction is understood and then successfully implemented within the context of public middle schools. To best answer the research questions previously delineated for this study, data for the four selected cases were collected using a variety of methods, intended to get to the heart of teacher learning, sensemaking, and implementation of differentiated instruction.

Data was collected through interviews of classroom teachers, formal classroom observations, informal site observations, participant journaling and the collection of relevant existing documents (Creswell, 2007; Patton, 2002; Yin, 2003). While it is common practice that the research questions for a study guide the development of the interview questions and protocols for other data collection processes, Maxwell (2005) clarifies this point further by stating, “There is no way to mechanically convert research questions into methods; your methods are the means to answering your research questions, not a logical transformation of the latter” (p. 92). Further, to reduce the introduction of bias and to prevent this study resulting in reaching biased results and conclusions, collecting data from multiple sources, perspectives, and locations provided a meaningful triangulation of the data. Guided by goal of understanding current practice and the influences on the observed classroom practices, the majority of the data collected
for this study came directly from the individual teachers, within their classrooms and
nested within the context of each of the respective schools. Collecting classroom level
data was imperative for this study as the goal is to gain insight into the complexity of
teacher learning, understanding and the implementation of differentiated instruction. To
develop a broad yet appropriately deep understanding about the beliefs, practices,
concerns and hopes of each of the cases, data was collected utilizing a variety of methods
including observations, semi-structured interviews, informal conversations, participant
journaling and document collection. By taking the necessary time to collect data from
each case, from multiple times throughout the school year, and utilizing a variety of
methods, the author was able to gain assurance that the issue in question was not being
oversimplified or being misrepresented by too little evidence. Further, the triangulation
of the collected data provides further assurances that key meanings are not being
overlooked and that the findings of the study are not misrepresented, overly exaggerated
or simplified (Stake, 2006, p. 33). Additionally, the collected data was reviewed by a
participating member as well as two individuals not directly participating in the study, to
give feedback and to share perceptions of the data following the initial draft of the case
reports and the creation of the data matrices.

**Participant interviews.** An essential approach to gaining insight into the selected
teachers’ practices, understanding, and beliefs about differentiated instruction, is to
engage each participant in conversation. As Patton (2002) suggests, “the purpose of
interviewing is to allow us to enter the other person’s perspective” (p. 341). For this
study, each of the selected participants engaged in a minimum of two semi-structured
interviews. The interviews followed interview protocols like the one in Appendix D and
lasted between 45 minutes to one hour. The interviews were open-ended in nature (Yin, 2003) to gain insight into each teacher’s practices and beliefs. The interviews began with questions about the teacher as a person, their background, history and definitions of differentiated instruction and will progressed to delving more deeply into the circumstances that lead to the successful implementation of differentiated instruction. All of the interviews were recorded using a digital audio recorder and were transcribed for use in the data analysis phase of the study. Additionally, the principle investigator took notes during the interview, capturing key ideas, recurring themes and additional questions that surfaced during the conversation.

**Formal and informal observations.** In addition to engaging in dialogue through semi-structured interviews, the selected cases for this study were observed formally in their respective classrooms as well as informally in each of their schools. To gain insight into the context within which the expert teacher works and to more fully understand the complexities and relationships that may influence the construction of meaning for teachers (Patton, 2002), data was collected using observational notes. Additionally, a classroom observation tool created by Tomlinson, Brimijoin, and Narvaez (2008) titled the “Classroom Observation Form for Summative Assessment of Differentiated Instruction” (see Appendix E) was modified and utilized to guide the observation process while in each of the classrooms. Each case had at least one formal and one informal observation, with follow up observations and conversations throughout the data collection phase of the study.

**Participant journaling.** To continuously collect data from each of the participants between interviews and observations, participants were asked to journal in response to
prompts established by the principle investigator. The prompts were related to the questions asked during interviews (see Appendix F), but with slight variation to gain more specificity or clarity about a specific idea, perspective or practice. The journaling occurred primarily by email in an effort to streamline efforts and reduce the time commitment of each of the participants. Collecting information through journaling via email also allowed for an ongoing record of responses from each participant and proved to be a less taxing process for each of the cases.

**Document collection and review.** To more fully understand the organization and the interaction of each of the participants within each school, documents like student and teacher handbooks, school goals, teacher evaluation matrices, lesson plans, and project assignment sheets were collected, when accessible. Such documents provided a confirming source of information about an organization, their stated priorities and how resources and supports are allocated (Patton, 2002). Additionally, collected documents like lesson plans and project assignment sheets provided an opportunity to see each teacher’s differentiated practice in action. Once collected, the documents were examined and analyzed to understand the kinds of supports provided to teachers in learning about, understanding and continuously improving the art of differentiating instruction.

In a study like the one being conducted, it is essential to insure that the information that is being collected is the result of reality and actual practice versus any kind of manipulation that the cases may try to create. Collecting data from multiple participants, utilizing what Maxwell (2005) refers to as “thought experiments” (p. 93), member checking and constantly revisiting the research questions assisted in insuring
validity and will help to reduce the introduction of harmful bias that might threaten the validity of this study.
Chapter 4

Individual Case Narratives

“Seek first to understand, then to be understood”

-Stephen Covey

The purpose of this study is to understand the conditions that facilitate teachers’ learning about, gaining mastery of and successfully implementing differentiated instruction. To conduct this qualitative investigation (Stake, 2006; Yin, 2003), a multiple case study was conducted. Each case, which is represented by individuals who were identified as expert differentiating teachers, participated in the data collection phase for this dissertation between April 2010 and January 2011. Utilizing a qualitative case study design, constructed from semi-structured interviews, classroom observations, participant journaling, and document collection, a bounty of meaningful and robust data was collected about each participant’s history and current practice, the perceived effects of communities of practice in each school and the role of formal leadership on the implementation of differentiated instruction.

A multiple case study was particularly useful to this investigation because it allowed the author to collect data over an extended period of time from each participant and provided the necessary opportunities to revisit questions, concerns and emerging issues during this iterative process. The focus of the data collection was targeted on understanding the many influences on teacher learning and implementation of differentiated instruction through the lens of sensemaking and situated learning theories. To further connect the theoretical framework and the collected data, this chapter will
provide a narrative for each of the four cases selected for this study (see Table 4.1). In each of the individual case narratives, particular attention will be given to providing insight into the worlds of each of the cases, by outlining previous experiences that have informed their current practice (Coburn & Stein, 2006; Spillane, 2000; Spillane & Jennings, 1997; Zeichner, 1983), providing a description of how differentiation is implemented in each classroom (Tomlinson, 2000; Tomlinson, Brimijoin & Narvaez, 2008) and summarizing some of the data collected during interviews, observations and participant journaling, regarding the supports and obstacles that have influenced learning and practice (Lave & Wenger, 1991; Weick, 2009).

As an instructional approach, differentiated instruction is unquestionably complex and potentially difficult to describe or to capture for a study like the one being conducted. However, utilizing Carol-Ann Tomlinson’s extensive body of work with differentiation, the four commonly referenced constructs of “content, process, product, and learning environment or context” (McTighe & Brown, 2005; Tomlinson, 2000; VanSciver, 2005; Wormeli, 2006), provides a common language to describe what has been observed, with respect to differentiated instruction. Additionally, a data collection tool for classroom observations was developed by Tomlinson, Brimijoin and Narvaez (2008) and was adapted for this study to provide a common means of capturing essential elements of differentiation within the classroom (see Appendix E).
### Table 4.1

**Connecting Case Narratives and the Theoretical Framework**

<table>
<thead>
<tr>
<th>Section in Narrative</th>
<th>Connection to Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assignment</strong></td>
<td>In the pursuit of gaining insight into how individual teachers learn about and implement differentiated instruction, attending to the context of the individual (Stake, 2006, p. 12) and the sociocultural practices of a community (Lave &amp; Wenger, 1991, p 29) understanding and describing each case’s current assignment is essential to this study.</td>
</tr>
<tr>
<td><strong>Influence of Education and Experience</strong></td>
<td>Examining implementation as a result of learning, this study draws on sensemaking and situated learning theories, which in the cognitive tradition have long posited that teachers view, learn about and understand new practices through the lens of pre-existing knowledge, beliefs, and experiences (Coburn &amp; Stein, 2006; Honig, 2006; Spillane, 2000; Spillane &amp; Jennings, 1997; Zeichner, 1983).</td>
</tr>
<tr>
<td><strong>Differentiated Instruction in the Classroom</strong></td>
<td>This case study is built on the belief that valuable insight can be gained into how teachers learn about, understand and implement complex instructional approaches like differentiated instruction, through a holistic examination of expert differentiating teachers. This section describes the actual practice, based on observations and interviews, with respect to the framework designed by Tomlinson, Brimijoin and Narvaez (2008) that utilizes the four domains of differentiated instruction: product, process, content and context.</td>
</tr>
<tr>
<td><strong>Support and Obstacles</strong></td>
<td>An in-depth investigation into the implementation of differentiated instruction requires the collection of data around the organizational supports and obstacles that teachers reportedly encounter as they work toward mastery of an instructional strategy (Honig, 2006; Lave &amp; Wenger 1991; Spillane, 2004; Tomlinson, Brimijoin &amp; Narvaez, 2008; Weick, 2009).</td>
</tr>
<tr>
<td><strong>Influence of Leadership</strong></td>
<td>The influence of leadership on organizational learning and change has been the subject of much research and is one of the mediating constructs included in this study (Coburn, 2005; Coburn &amp; Stein, 2006; Honig, 2006; Spillane, Reiser &amp; Gomez, 2006; Tomlinson, 2000; Tomlinson, Brimijoin &amp; Narvaez, 2008; Weick, 2009).</td>
</tr>
</tbody>
</table>
The narratives in this chapter provide considerable insight into the professional lives of each of the cases and lay the foundation for the cross-case analysis that follows in the next chapter.

**Annette**

**Current Assignment**

Annette is serving in her eleventh year as a public educator at Acadia Middle School in School District #1. During her time in public education, Annette shared that she has served primarily as a language arts teacher, though she has also served as a social studies teacher when she has been asked to do so. Over the past eleven years, Annette has taught sixth, seventh and eighth grades, though she is currently teaching 8th grade language arts and expressed that she prefers working with eighth graders, “the older kids”. Annette has been employed at Acadia Middle School since graduating college and shared that she truly does enjoy working in the Pike Peak region at Acadia Middle School. Annette’s school is a relatively large middle school of 704 students, in one of the state’s largest school districts. Acadia Middle School is one of nine middle schools in School District #1 and is the most racially diverse school in this study and has the largest percentage of Free and Reduced Lunch students, at 41%. Interestingly, Annette remarked during the September 2010 interview, that the size of the school and the more intense needs of her students make the need for differentiating instruction more essential, but also shared that those factors make planning and preparing differentiated lessons more difficult. During the time spent at the Acadia Middle School for the interviews and observations conducted, the author noted that while Acadia is an older school and
designed prior to planning and building to meet current security expectations for schools; the school was clean, well-maintained, organized and felt safe.

**The Influence of Education and Experience**

When asked to reflect on her experience as a middle school student and her recollection of quality educational experiences, Annette revealed that she was frequently grouped with “high achieving” students who were often exempted from “easier, busy work” and challenged to work more in groups on projects outside of the general education classroom. Annette commented that she appreciated being challenged as a high performing student and remembers feeling like being grouped with the “high achieving” students group was a privilege. During the September 7, 2010 interview, Annette made the connection between her positive experience with being grouped with the higher performing students in middle school and her own focus as a teacher on needing to understand where students are performing academically and to work to meet students where they are performing and to appropriately challenge all students. Annette shared that she uses “student data like CSAP results to identify student readiness and their need base and a body of evidence to adjust instruction” throughout the lesson. Annette reported that she tries to find out where students are performing and to “push them out of their comfort zone”, even though gathering meaningful data takes time and often happens after the start of the school year. Annette made further connections between her current practice to previous experiences as a student by stating, “Just getting to know my students and knowing myself and knowing what worked for me and thinking that if it didn’t work for me, the way something was taught, then something needs to be changed” and “I think some of my background knowing this did not work for me as a
student and I think how can I help them to learn in another way?” (personal communication, September 7, 2010). Clearly, Annette’s prior experience as a student provides a mental framework for her as she thinks about and enacts teaching and learning strategies.

Annette is currently enrolled in a Master’s degree program in Special Education at the University of Colorado at Colorado Springs and hopes to complete the program by May 2011. Before beginning the Master’s program, Annette earned a Bachelor of Science degree in both Social Sciences and Political Science. Annette commented during the initial interview, that while she is happy with her decision to serve as a middle school language arts teacher, she did not initially want to be a teacher and had hoped to serve in the legal field. She shared that education became an obvious option when she realized that she did not want to continue in school as a law student and that she wanted to do something that was “meaningful” and something that involved “a career with kids”.

When asked specifically about how the concept of differentiation was introduced to her and how she learned to differentiate, Annette stated that she sees herself as being mostly self-taught through “personal research and by working with others”. During the September 7, 2010 interview Annette stated:

because differentiation was such a push by our former principal, he always talked about it, I did some research, and I did some looking into it [differentiation] for myself. And then noticing others that did it, I talked to them and tried out new strategies and ideas.

In a follow up interview, Annette shared that a combination of “personal research, talking with others, getting to know [her] students and really, getting to know [her] own
strengths” (personal communication, January 13, 2011) played a large role in her learning how to differentiate. Annette stated that her current coursework in the Master’s degree program in Special Education has provided her with more specific examples and given her a new perspective about the importance of differentiating instruction. Annette reported, “I have learned a lot with my Master’s program over the past two and a half years. It has given me new ideas, ideas of how to do it and the process of differentiating” (personal communication, September 7, 2010).

When asked about her definition of differentiated instruction, Annette revealed that she believes that differentiating instruction is “big, complex and is a struggle initially, it is something that I found myself thinking ‘what are you talking about’ when the principal would push it [differentiated instruction]” (personal communication, September 7, 2010). Annette went on to define differentiated instruction as “using assessments to identify student levels and then delivering instruction at different levels to meet individual needs with the hope of closing the educational gap on their learning” (personal communication, August, 26, 2010). While Annette stated that “I think when it is used correctly and used as much as you can, it does benefit students” she also commented that differentiating instruction “takes time, a lot of time, for teachers to be able to connect material and instruction to meet the needs of each student, especially in classes where there are extreme differences” (personal communication, September 7, 2010).

Differentiated Instruction in Practice

Annette works in an older school that was observably clean, organized and appeared safe. Similarly, her classroom was recognizably older in style and décor but
was extremely well-organized and clean. The classroom was set up with a traditional series of desks that were set up in rows. The teacher’s desk was in the far corner of the classroom and was also very neatly organized. There was very little on the walls, except for a bulletin board on the wall next to the teacher’s desk that displayed student work. The students’ desks were organized to face the front of the classroom where a large whiteboard adorned the red brick wall. A projector was positioned in the middle of the classroom facing the whiteboard and was used often throughout the class period.

During the formal observation on January 13, 2011, the principle investigator arrived early to capture the full experience, from start to finish, in the classroom. After a brief discussion about the day’s observation, Annette acknowledged that the students were on their way and then directed the author to sit at a student desk near the back of the room. Annette stood outside of her classroom door and greeted each student as they entered the room (Tomlinson, Brimijoin, Narvaez, 2008, p. 114). Comments from Annette ranged from “go on in and take a seat”, “I hope you brought your book today, we will be using it” to answering specific questions from students about what the focus of the class would be that day. It was immediately noticeable that Annette had a good rapport with her students and that the students appreciated and respected Annette as their teacher.

Once all of the students filed into the classroom and took their seats, Annette called the class to attention and stood near the front of the classroom. She directed the students’ attention to the whiteboard where she had written the learning goals for the unit, which was exploring American literature from the Revolutionary War era. The class discussed the posted goals and the day’s agenda, which was to continue to work on a
multifaceted project that will be described later in this section. The learning goals were exceptionally clear, were reviewed and clarified by the teacher and students, and set the stage for the rest of the class period (Tomlinson, Brimijoin, Narvaez, 2008, p. 114).

Once the review of the learning goals was complete, Annette conducted a quick review of the concepts of persuasive writing and the use of emotional appeal in music and literature. The students were then asked to complete the grammar exercise for the day, which was projected onto the whiteboard. As the students began to work, Annette turned on the CD player that had music cued from the early 1800s. Students worked independently in rows, completing the assigned grammar review, while listening to the music.

Following the grammar review, Annette asked students to put their grammar journals away and began talking about the music that was playing. Students were asked to describe the feelings, the purpose and the point of the selected music. Annette then projected the lyrics to one of the songs on the whiteboard and the class engaged in a rich conversation about the use of certain words, specific literary concepts and the context, the turn of the 19 Century, from which the song came. This activity served as a bridge for the class as Annette asked the students to get out the project packet for the assigned unit. In her typical high-energy demeanor, Annette asked students to recall some of the expectations and instructional purposes of the project. The students were eager to respond and raised hands awaiting acknowledgment to share. Once the review was complete, Annette reminded the students that they had been previously grouped, “by color”, and that the project would be different for each group. Prior to the start of class, Annette shared that she created four groups based on performance on CSAP and
classroom assessments in an effort to identify different levels of need and sophistication. The different “color groups” were challenged at slightly different levels, each group had different vocabulary lists and were, in some cases, asked to complete portions of the project in varying degrees of abstraction. For example, students who were grouped with peers that were below grade level in reading, had to research and provide specific information about a topic of choice, while the more advanced students were asked to provide a more complete writing that covered both sides of an issue. This was a good example of tiering the activities, or the “process” so that all students could gain access to the content and could work toward meeting the instructional goals of the unit.

The students were excited to get started with the project. When a student was asked to share what he was doing, he proudly showed a comic strip that depicted a historical figure that was obviously involved in a battle and writing music based on his experiences. The visual depiction captured the evolution of Francis Scott Key’s “The Star Spangled Banner” and the context and relevance of the song during that time in American history. When asked why he chose to draw a comic strip as one element of his project, the student responded that he is a visual and kinesthetic learner. Surprised by the answer, the researcher probed further and found that the class started the year by taking a learning style inventory (Tomlinson, Brimijoin & Narvaez, 2008, p. 116; Wormeli, 2006, p. 62) and that they often talk about different learning styles in class. At closer inspection, the project revealed that Annette, who was feverishly working the classroom by checking with students and providing support, clarification and guidance to individual students, had designed a project that was tiered for multiple levels, utilizing different resources, required vocabulary lists and levels of sophistication (Tomlinson, Brimijoin &
Narvaez, 2008, p. 116). Further, she gave students the opportunity to choose to complete five of the six designed activities, each providing excellent examples of tiering, cross-curricular planning and focusing on student engagement without compromising academic rigor. The project challenged students to consider the Revolutionary War era in America through analyzing and writing about a provided map, analyzing and writing about music from the era, developing an interactive timeline that captured themes, trends and concepts in addition to specific dates, a comic strip that visually depicted an incident or concept that was relevant to the time period, a math project that required students to make calculations about Fort McHenry, a persuasive writing piece from a chosen position and a journal writing from the perspective of a chosen historical figure about an incident that is relevant to the life of the chosen figure. This project clearly demonstrated that Annette was pushing all of her students to gain deeper understanding through personal engagement and activities that required higher level thinking.

While this project was large and required Annette to design multiple project ideas with different levels for each project, the students were engaged, focused on leveraging personal interests and were able to reference the well-designed rubric when asked how they knew if they were doing a good job. Clearly the “content” for this project was differentiated by providing different levels of resources and project types to meet varied learning needs, interests, and learning styles. Additionally, the “process” was differentiated by providing students choice with the tiered activities, that were intentionally designed to meet the individual needs and learning styles of students in the classroom. The “product” of the project was reasonably differentiated by providing options with multiple modes of expression, some choice about how the work would be
completed and a fair amount of opportunity for students to connect personal interests and talents to the project. An area that did not seem particularly strong, with respect to differentiation, was related to the learning environment, or “context”. While Annette did share that students do have some opportunities throughout the year to work in pairs, small groups and on teams, students during my observations, always worked alone or as a whole class and were urged to stay focused and to keep the noise level down. And, while the classroom was observably engaged and productive, Annette was very firm and clear about students working independently and not “bothering other students”. Using the observation tool as a reference point, Annette scored well in all areas except for establishing a learning environment that provides opportunities for students to work in varied “student groupings” and that the “classroom space was used flexibly” to maximize student interest and available resources (Tomlinson, Brimijoin and Narvaez, 2008, p. 115).

Overall, Annette provided excellent definitions for the concept of differentiated instruction, she did an excellent job of exemplifying differentiated instruction with the Revolutionary War project and though she did not appear to be open to intentionally differentiating the “context” of her classroom, Annette clearly is a master teacher who differentiates for varied student needs and learning styles by providing students with choice and opportunities to leverage individual talents and interests.

**Supports and Obstacles to Implementing Differentiated Instruction**

To gain insight into the influences on teacher learning that lead to the successful implementation of differentiated instruction, Annette was asked to provide her perspective and specific examples of supports and obstacles that exist at her school.
Eager to share both supports and obstacles, Annette stated that she believes that “having administrators or experts in the field model specifics about differentiating instruction, rather than simply mandating it without support, would be helpful especially to teachers who are newer to the concept” (personal communication, September 7, 2009). Annette also cited peer observation as an approach that has been helpful in the past and as a means of learning about and seeing differentiated instruction in action, though she did share that there is little time and often little support from administration to have release time to see peers in action. When challenged to provide examples of how she has continued to learn about differentiation, beyond her coursework and from her personal research, Annette stated that “working with colleagues, specifically the librarian and a fellow language arts colleague has been especially helpful”. She commented that the reason that these individuals are accessed to assist in her efforts to differentiate, is because she trusts and respects their opinions and that they are accessible during her plan times. Annette was very clear about her belief about the value of having time to meet frequently with colleagues who have common interests and a commitment to differentiating instruction.

When asked to talk about the obstacles that effect her implementation of differentiated instruction, Annette shared that there are many challenges with differentiation. She cited large class sizes, lack of planning time, poor follow through by administration and a belief that differentiated instruction is “an expectation without guidelines” to support its implementation. When asked to provide more detail about challenges, Annette commented that “administrators at the building and district level push the concept, but provide little specific guidance about what differentiation is, what it
looks like and how it is suppose to be done” (personal communication, September 2009). She also shared that the student grouping that often needs to happen is a “pain” because of inflexible scheduling. Annette suggested that having a daily schedule that allowed for more flexibility for student grouping by ability rather than by grade and class period, would provide her more opportunity to target her instruction and to provide specific instructional interventions. Annette also shared a challenge to building curriculum designed around the needs of her students is affected by how student data is managed at the school and district level. Annette stated that the “delay in getting data and relevant student information early enough in the year to do something with it” is an obstacle. In both cases, Annette shared her belief that the existing traditional structures that are built primarily on logistics like time and class sizes, may not be possible to overcome and pose a real threat to having all teachers effectively differentiate instruction in all classrooms (personal communication, January 2011).

**The Leadership Influence**

Since the influence of building leadership, specifically around formal leaders like school administration is a focus of this study, due to its importance in the literature on teacher learning and implementation (Coburn, 2005; Honig, 2006; Spillane, Reiser and Gomez, 2006; Tomlinson, 2000; Weick, 2009) Annette was asked to respond to her perception of the role of leadership on her efforts to learn about and implement differentiated instruction. What she shared, repeatedly, was that she believes that her administrators value her willingness to take risks and they appreciate her ability as a differentiating teacher, however, she also believes that her administrators talk about the importance of differentiating instruction, but little effort is put into modeling, providing
training or allocating resources to insure that staff members really know what
differentiated instruction is and how it should be implemented in the classroom. Annette
shared that “the so-called experts (administration) make differentiation a big deal, but
they don’t make it evident that they have ever been in the classroom” (personal
communication, September 7, 2010). During the interviews, journaling and observations
with Annette, there was a recurring sense that differentiation is talked about in the
building and is seen as a means of improving student performance on standardized tests,
but that large class sizes, lack of protected time and unclear expectations create an
obstacle that some teachers use as a reason to choose not to differentiate.

**Bonnie**

**Current Assignment**

Bonnie is a thirty-one year old teacher who is serving in her eighth year in public
education at Berliner Middle School in District #2. Bonnie is a teacher who was
frequently referenced by her building administrators, in the earlier stage of selecting
cases for this study, because of her reputation and history of working hard and striving to
meet the needs of all students. In fact, Bonnie’s supervisor shared that she has accepted
the challenge to teach a variety of classes and students, including teaching in remedial
and talented and gifted programs. Bonnie has taught all eight of her years at Berliner
Middle School and shared that she has enjoyed working at Berliner, even though they
have experienced what she described as an unusually high amount of principal turnover,
having three principals in her tenure at the school. Bonnie is currently working in the
eighth grade.
After spending time at Berliner Middle School observing, interviewing and engaging in informal conversation over the course of this study, the author would describe the school building as a decently maintained school that feels safe and comfortable, but has some obvious décor and design features that make it apparent that the building was built in the mid 1980s and updates to the building have not been a priority. Berliner is the largest middle school in the study, with 987 students. The school is a typical suburban school with low reported percentages of racial diversity and a relatively low percentage, 16%, of students receiving Title I support. Berliner is in one of the larger district in the Front Range and is one of six middle schools in District #2. Both the school and the district have a reputation of being high performing and were frequently rated as “Excellent” by the state, based on performance on CSAP.

**Influence of Education and Experience**

Much like Annette, Bonnie shared that she was an identified “talented and gifted” student in school and often received alternate assignments, assessments and “pull out classes” to best meet her needs and to provide her with appropriate challenge. During the interviews and journaling activities, Bonnie consistently attributed the success of having quality instruction as a student, to her classroom teachers. On many occasions, Bonnie described her fifth grade teacher as a high-quality teacher who she stated, “always pushed [her], challenged [her] and didn’t let [her] get by with fluff work”. Additionally, Bonnie indicated that one of her high school teachers identified her strength in math and really helped to boost her self-esteem in a subject that she didn’t feel especially strong in, during a time when she was prone to feeling overwhelmed socially and cried often. Bonnie shared that she believes that she had a special talent in writing and that the other
subjects were relatively easy for her but they didn’t give her the same kind of satisfaction as writing and that her best teachers tended to be English teachers.

During the October 7, 2010 interview, Bonnie stated that she considered and “tried out” a few other professions and offered that she didn’t initially want to be a teacher. Bonnie shared that when she was in college and she would tell others that she was an English major the response was typically “oh, you’re an English major? You’re going to be a teacher” to which Bonnie would respond “no I am not!” (personal communication, October 7, 2010). However, Bonnie said that even though she was not initially interested in teaching, but rather was really drawn to writing during college, possibly as a journalist, she couldn’t stop thinking about her work as a camp counselor during high school and college and found that she couldn’t find a job that could replace her “love for kids” and the “challenge of teaching and reaching kids”.

**Differentiated Instruction in the Classroom**

On January 11, 2011 a formal observation was conducted in Bonnie’s classroom. Upon entering the building and signing in to conduct the observation, Bonnie’s principal approached me and after confirming the reason for my visit, shared that he thinks Bonnie is an “exceptional teacher” and has been especially impressed with her ability to work with and “move students” that are above grade level as well as students that are below grade level. Upon entering Bonnie’s classroom, it was immediately noticeable that the size of her room was smaller than typical classrooms. When asked about the size of her classroom, Bonnie shared that the space was once used for teacher planning and team meetings, but with the growth of the school, the space was converted into a small classroom. The classroom was full, but appeared well-organized.
As the students entered the classroom, Bonnie called individual students to the front of the room, where she had her grade book, to remind students about missing assignments. Students quickly found seats in the classroom, which were arranged in rows, facing the front of the classroom where a large whiteboard covered most of the wall. After a quick prompt from Bonnie, all of the students found individual journals that were obviously used for the daily warm up exercises. During the day of the observation, the students were focused on reading a passage from the civil rights movement and analyzing it to determine what kind of appeal the author was utilizing in the passage. Once it was apparent that students were finished with the individual analysis, Bonnie conducted a review of the three types of appeal in writing that the class was focusing on at the time: ethical, emotional, and logical. Bonnie encouraged students to think of examples of these appeals from their own life. Students shared examples from music, movies and novels and appeared to be engaged and interested in the topic. Once the review was complete, Bonnie told the class to get into their “work groups”. These groups were then given a piece of literature from the civil rights movement. Upon closer examination, it was clear that each group received a different piece of literature. Each piece varied in length and complexity. When asked about this finding, Bonnie shared that she had created “work groups” based on CSAP results as well as a pre-assessment that she gave at the start of the year to gauge individual reading ability. These groups were then asked to meet the same learning goals and objectives using texts that were more closely aligned with the individual student’s reading level. This was an exciting finding not only because it represents excellent differentiation with both the “content” and “process” of the class, but also because it validates what Bonnie had repeatedly
reported that she varies the content in her classes to meet the learning needs of her students based on formative assessments. During the October 7, 2010 interview Bonnie stated:

to me differentiating makes sense. When I was teaching on a team I would have multiple levels within my class and it wasn’t a big deal for me to have five different vocab or spelling groups or six books running at the same time.

Once the students received their materials and were directed to read the text and highlighting each type of appeal in the text, Bonnie sent the groups in four different directions. Two groups stayed in the classroom, while two groups left the classroom to work in the hallway. With the door open, Bonnie managed to rotate from group to group answering questions, providing clarification and making connections with each group. It was during this time that Bonnie’s ability to connect with and to encourage each student became most evident. To the observer, it was clear that relationships are very important to Bonnie and that making a personal connection with each student was a priority.

Once students completed the difficult task of coding the assigned texts, identifying the different types of appeal, Bonnie had the groups return to the classroom for a closing conversation. To close the class, Bonnie stated that it was evident that more time was needed for this assignment and that she was going to adjust the next day’s activities so that the groups could work more together to complete the assignment. The students cheered. To leave the students with something to think about, Bonnie asked students to share some of their findings from the texts, then she pushed further to have students make connections to the civil rights movement and in some cases, to issues that might be of relevance in modern America. All students appeared engaged and every
student chimed in during this discussion with comments or ideas related to civil rights, the civil rights movement and the relevance and value of Martin Luther King’s contributions to American history. Bonnie reminded them of the upcoming holiday and dismissed the class.

Bonnie’s class was fun and exciting to observe. All students were engaged and offered personal insights, suggesting that Bonnie has done a good job of creating a safe and productive learning environment in the classroom. Further, Bonnie’s use of assessment data, including her own pre-assessment, to select reading materials, create tiered activities and to challenge each student at their own reading ability, indicates that Bonnie is concerned with and intentionally designs her classroom with a focus on the “content” and “process” of her instruction. An area that was not observably clear or evident after the follow up conversation with Bonnie, was her attention to differentiating with a focus on “product”. While students were asked to work in groups and had the choice to work alone and the content was differentiated, all students were essentially asked to complete the same task. To strengthen this domain, Bonnie should consider offering students more choice in demonstrating their learning, while encouraging students to leverage their personal interests, and talents. However, though Bonnie did not score well in the domain of “product”, it was very evident that she does intentionally differentiate her instruction and is driven to help all students to engage and learn while in her classroom.

**Supports and Obstacles to Implementing Differentiated Instruction**

When asked to describe her experience with differentiated instruction, Bonnie started by providing a definition. Bonnie stated that “differentiation is meeting each kid
where they are. You start with a baseline assessment and go from there” (personal communication, October 7, 2010). Bonnie went on to state that differentiating instruction just “seems to make sense to [her]” and that “giving each kid what they need is the whole point of teaching and something that seems to come naturally” (personal communication, October 7, 2010). When the author asked Bonnie to describe her training in differentiating instruction, she stated that she is “largely self-taught, though the concept of differentiating was introduced in college” (personal communication, October 7, 2010). Bonnie continued by sharing that she has not had formal classes specific to differentiating instruction, though she has taken advantage of district level training opportunities about building rubrics and curriculum design, which were helpful and were directly applicable to the classroom. Bonnie shared her belief that differentiation is something that is learned through trial and error and can look different from teacher to teacher.

On multiple occasions, Bonnie was asked to provide her thoughts regarding the obstacles and supports that she believes exists, with respect to implementing differentiated instruction, in her school and school district. Bonnie repeatedly stated that differentiation is talked about often, especially by administrators, but she also shared that there is resistance to implementing the concept by many teachers in her school. Bonnie believes that her colleagues feel overwhelmed by the reality that students perform at such “vastly different academic levels” and there is a perception that differentiating instruction takes more time than more traditional methods of instruction. Bonnie also shared that she believes that teachers “shoot for the middle” to try to meet the vast array of needs, “often leaving accelerated students to muddle through redundant material” (personal communication, October 7, 2010). Bonnie also stated that with the increased focus on
students with special needs, as the result of NCLB and IDEA, “differentiating for high
ability and gifted students all too often becomes an ‘only if I have time kind of situation’”
(personal communication, September, 2010). Bonnie believes that “too little time” and
“lack of knowledge” by teachers and administrators is really at the core of differentiated
instruction not diffusing more rapidly throughout schools. After all, Bonnie said, “it is
easier and safer to teach in a one size fits all kind of way” (personal communication,
October 7, 2010).

When asked who she goes to for support in building a differentiated classroom,
Bonnie shared that she works with the Talented and Gifted coordinator, her brother who
is also a teacher, and her current principal, who she sees as more of a financial and
logistical supporter than a supporter of her classroom practice. Bonnie also shared that
working with her team has been beneficial when the team is comprised of quality
teachers who are committed to differentiating and when teams are allowed to stay
together for more than a couple of years. Much like Annette, Bonnie referenced time as a
hurdle that is hard for teachers to overcome when planning to meet and discuss
instruction, assessments and curriculum.

The Leadership Influence

Throughout the span of time that data was collected for this study, Bonnie
frequently discussed the impact of leadership on implementing differentiated instruction.
In fact, during one of the follow up interviews (December 16, 2010), Bonnie stated that
“if people don’t like the principal they will resist anything he/she says”. Bonnie shared
that she believes that differentiation has become a kind of “boogieman” for teachers
because it is talked about so often and principals even demand proof that it is happening,
but there is little administrative visibility in classrooms, a fear of taking risks that is tied to pressure around test scores and little specific direction given to teachers about what differentiated instruction is, what it looks like and how it is done (personal communication, October 7, 2010).

Bonnie believes that differentiating instruction is essential for teachers to meet the needs of students and shared that for teachers who really want to invest in the time and energy to differentiate; she believes that they are doing a really good job at her school. But, for teachers who choose to ignore the demands of administration and who choose not to invest in the time and collaboration needed to make differentiated instruction work, there is little to no accountability and they appear to simply be getting away with choosing not to differentiate.

Carol

Current Assignment

For the past fourteen years, Carol has been working in public education in the state of Colorado. While she does have two years of experience teaching at the elementary level, Carol has spent the last twelve years working in middle schools. Interestingly, Carol not only prefers working at the middle school level, but one of her Bachelor’s degrees is in Middle School; the other Bachelor of Arts degree is in Library Media. Of the twelve years that Carol has served at the middle school level, the last ten years have been at Casper Middle School in District #3. During her tenure at Casper Middle School, Carol has taught exclusively at the seventh and eighth grade levels. When asked to describe her teaching responsibilities, Carol shared that depending on the year and the focus of the administration, she has had the opportunity to work in different,
more intentionally grouped classes to provide students remedial or accelerated instruction based on student need. Currently, however, Carol is serving as a seventh grade language arts teacher on a four person team at Casper Middle School. When asked about her path to becoming a teacher, Carol shared that her mother and father are both teachers and that growing up in a house filled with stories about school and the classroom was all that she needed to commit to becoming a teacher. Her first experience with teaching, which she remembers very fondly, was serving as a youth leader at her church. Carol identified her work with the church as the beginning of her career in education and offered that she considers her work in schools to be her “life’s work” and described working in a middle school as “it’s challenging, every single day is different and you never know what to expect. It always kind of stretches you and demands a lot of you and I enjoy that” (personal communication, October 12, 2010).

Casper Middle School, in School District #3, is a relatively new school in a quintessential suburban area that until the last five years, during the current economic downturn, was in the middle of a rapidly growing and expanding community. Since the growth has slowed, School District #3 has had to do some consolidating of schools in the area to maximize the use of the existing school buildings. While Casper Middle School is the second largest middle school in this study, with an enrollment of 818 students in the 7th and 8th grades, School District #3 is by far the smallest district included in the study. In fact, Casper Middle School is the only middle school in School District #3, though Carol shared that there is talk of opening a second middle school once the growth in the area resumes.
Casper Middle School has consistently been rated as an “Excellent” school by the Colorado Department of Education and has a reputation in the surrounding area of being a high performing school. Of the schools included in this study, Casper has the lowest percentage of students identified receiving Title I support with 8% of students identified as receiving Free or Reduced lunches. Casper Middle School also has the highest percentage of students who were identified “White, not Hispanic”, indicating the lowest percentage of minority students of the schools included in this study. During the time spent at the school to conduct interviews and observations, the author would describe the school as appearing and feeling like a new school that is equipped with more current furniture, fixtures and technology. Casper was an active, warm school that was clean and felt welcoming.

**The Influence of Education and Experience**

When exploring Carol’s prior experiences to better understand her current practices, Carol shared that she has always liked school and has always enjoyed the challenge of learning. Carol was an identified talented student who was involved in clubs and athletics at school and remembers her middle school years fondly. When asked to reflect on middle school teachers that she remembers as especially effective, Carol recalled several teachers but offered that she believes that the really great teachers were noteworthy because they were always accessible to students, both physically in terms of availability beyond the classroom and emotionally with respect to building relationships and seeming to care. Carol stated, “you know, I had a lot of good teachers and many, many great ones. What really sticks out about them is their accessibility. You really
truly felt that they cared whether you succeeded or not” (personal communication, October 12, 2010).

In fact, the concept of personal investment and connection was a recurring theme with Carol throughout all of the data collection. When challenged to be more specific about the ideas of connection and investment, Carol said that she believes that her teachers were invested in her success because they went out of their way to get to know and to talk about her “personal interests and pursuits”. When challenged to provide a definition of differentiated instruction, Carol stated that

For me, it is providing for each student’s learning by presenting different instruction, not more instruction. Depth, speed and choice are the three words that I think of when preparing to differentiate for a student or class. I ask, can we go faster with the material? Can we take the topic further? What choices can I give students regarding the final assessment? (personal communication, October 12, 2010)

Carol commented that she believes that teachers must be willing to differentiate and to be flexible with their instruction if they hope to meet the needs of each of their students. When asked to describe her training and how she gained mastery of differentiated instruction, Carol stated that differentiated instruction was “touched on briefly” during her undergraduate studies, but that most of her knowledge has been gained through reading journals and books about instruction on her own. Carol also stated that she has benefited in the more recent years from district level professional development opportunities that were targeted to the middle school level and offered specific strategies and tools to use in the classroom.
Carol also commented that she believes that good teachers “have an excellent command of the classroom and an engaging teaching style, and present ideas and lessons in ways that ask you to do your best” (personal communication, October 12, 2010). Carol also stated that she believes that good teachers must really “love their subject” to be able to energize their students. At the end of the conversation about previous teachers and learning experiences, Carol commented that “I guess those are good questions and something I don’t think about often, but I guess I do think about the things that worked for me and the things that got me excited” (personal communication, October 12, 2010). Much like the previous cases, Carol indicates that her previous experiences as a student influence her instruction (Coburn & Stein, 2006; Honig, 2006; Spillane, 2000; Spillane & Jennings, 1997; Zeichner, 1983).

**Differentiated Instruction in the Classroom**

On December 14, 2010 the principle investigator visited Carol’s classroom for a formal observation. During a brief meeting prior to the start of class Carol somewhat nervously shared that the class was wrapping up their reading of *A Christmas Carol* by Charles Dickens and had decided to totally change her final assessment of the novel. When asked why she had decided to make the shift, Carol stated that she thought she could “get more out of her students” by having them consider the novel as a foundation for a deeper conversation about social issues that are relevant to her students.

The classroom was set up with two rows on each side of the room that were facing each other with an aisle in the middle of the two sets of desks. The classroom was well-organized, colorful and decorated with student work and some relevant posters. As students entered the room, Carol stood near the door and welcomed most students as they
came close to where she was standing. The classroom felt warm and Carol appeared to enjoy talking with students and welcoming them into the classroom. The day’s lesson began with a whole class review of the novel, which was facilitated by Carol. Questions ranged from the basic recall of specific facts about individual characters and occurrences, to more inquiry-based questions designed to challenge students to connect ideas and themes from the novel to current events and issues like homelessness and unemployment. A good and specific example of the higher level questioning and thinking that Carol facilitated was a discussion about poverty, its causes, its purpose in the novel and why it appears to persist over time. All students appeared engaged, willing to participate and eager to share their ideas. Students clearly appeared to feel safe to take risks and to share their perspectives.

Following the review of the novel, some interesting concepts and relevant social issues, Carol distributed the description of the unit’s final assessment. Choosing to provide an opportunity that allowed students to engage in rich conversation and invest in a project that covered both main ideas from the novel and social issues, Carol diverged from the traditional assessment that her colleagues were giving and the students appeared ecstatic. The project challenged students to extend what they had learned about the world created by Dickens, by considering Ebenezer Scrooge as a mayoral candidate. After a quick review of the rubric and the multiple options that students could choose from as Ebenezer’s campaign managers, students were given the opportunity to work alone, in pairs or in small groups. Immediately, students began to chatter, the energy began to rise and students began moving desks to start creating the project. Students were required to design a visual aide that captured Ebenezer’s campaign message. They were also
challenged to come up with a slogan that captured both social issues of the time and possible campaign promises and his platform. Students were then given the option of writing a newspaper or magazine article that captured Ebenezer’s life and his campaign message or to create a video commercial. The planning for the final products varied greatly and the slogans addressed issues like poverty, homelessness, increasing the minimum wage and leading in difficult economic times. In short, the class was alive with creativity and all students, whether working alone or with partner, appeared engaged and accepted the challenge. The class ended with a quick review and clarification about the goals and the expectations of the project, along with Carol’s learning goals and objectives for the unit.

The assessment that Carol created is an excellent example of differentiating the final “product” that allows individual students to leverage personal interest and talents (Tomlinson, 2000). Providing students’ choice in type of project and with whom each student will work along with some degree of tiering instruction indicates that Carol is conscious of differentiating “process” with this assessment. The “context” of the classroom was flexible and morphed to fit the needs of students and projects as student chose to work alone or in groups. Carol was eager to allow the classroom to fit the needs of her students. In fact, during an earlier interview, Carol stated that:

flexibility is important. In a truly differentiated classroom you would have rooms conducive to learning stations. In a perfect world, rooms would have tons of technology that is easily accessible to use and to try out new things. They probably wouldn’t all be square and exactly the same throughout the school.

(personal communication, October 12, 2010)
Finally, the “content” of the class was varied in terms of how students were able to gain and share information for the final assessment. An area that the principle investigator found little evidence of during the observation was Carol’s use of varied levels of material throughout the unit to address the varied reading levels of her students. When asked about differentiating for students using different levels of text, Carol indicated that the whole class was focused on the Dickens’ novel for the current unit, but that there will be opportunities for students to have more choice to select texts in the future. However, there is arguably a difference in allowing students to choose texts, which addresses personal interest and engagement and the use of materials at different levels to meet the individual learning needs of students. Needless to say, Carol scored lowest with respect to differentiating “content” on a regular basis in the classroom.

**Supports and Obstacles to Implementing Differentiated Instruction**

When asked what drives her to differentiate, Carol said that beyond differentiation being “the right thing to do”, it has also been articulated by the building principal that differentiating instruction is an expectation for all teachers. In fact, Carol stated that at Casper, differentiation is “looked at as an approach for all students” (personal communication, October 12, 2010). When asked to describe the supports that have influenced her practice and continued learning, with respect to differentiated instruction, Carol offered that the building administration has not only made differentiation a building expectation, they have followed up with some trainings during professional development days. When challenged to be more specific about the value of the professional development provided by building and district administration, Carol said,
I think the first couple of years when they kept throwing out the idea of
differentiation; I kept saying what do we do? Show me and give me some
strategies! So I took some classes at the district and through BOCES that gave
specific tricks that I could implement. And then from there and trying things out,
I got a little more confidence and was able to kind of turn things on and around as
needed. It was a different kind of way to think about things. (personal
communication, October 12, 2010)

Carol also offered that her school is committed to the team concept as a middle school,
which provides a great opportunity for colleagues to meet and to talk about instruction
on a weekly basis. Carol suggested that having “protected time to meet” with colleagues
and to plan is essential to being able to differentiate well. When asked to be more
specific about how the team concept supports her classroom instruction, Carol stated:

if your team is very cohesive and they want to do interdisciplinary things, that
lends itself to thinking outside of the box, asking the TAG and SpEd teachers for
support and you kind of start playing off of each other and different ideas hatch
out and that is very supportive of differentiation. (personal communication,
October 12, 2010)

Carol identified spending time with colleagues who can offer support and sharing ideas
as a professional need to differentiate instruction, which is similar to ideas shared by
Annette and Bonnie who also identify frequent, informal meetings with colleagues to
share ideas as a support to teacher learning and implementing differentiated instruction.
This identified and clearly articulated need is a foundational element to learning, as
described by Lave and Wenger (1991) in describing the situated learning theory.
Following Carol’s lead that accessing colleagues is a fundamental support for her, Carol was asked who she accesses for support in her planning, instruction and assessment. She shared that she frequently meets with the building’s talented and gifted teacher as well as her grade level special education teachers to brainstorm approaches to meet all levels of ability in her classroom. Carol also shared that she had a good mentor when she started working at Casper Middle School and that the mentor observed her classes, gave very specific feedback during the first year and met with Carol often to plan and brainstorm lessons. In fact, Carol suggested that if teachers had more time to observe each other and to model quality lessons or activities, she thinks more teachers would differentiate and would “move beyond trying simple strategies”. When asked for clarification about moving beyond simple strategies, Carol indicated that she believes “some teachers use some strategies that are considered differentiated strategies, but differentiation is about a different way of thinking about teaching” (personal communication, October 12, 2010).

In the discussion about supports that have assisted in her planning, teaching and assessing in a differentiated classroom, Carol indicated that beyond having her mentor teacher who was able to give specific feedback and ideas to improve her instruction, Carol believes that having experts in the building that can be easily accessed leads to improved teacher learning and improved classroom instruction. Carol stated:

we are lucky to have a fantastic GT teacher who was an excellent language arts teacher. She is visible and accessible and offers support and ideas, which is a good fit for me as a teacher. I need someone to give me resources like journals,
internet tools, magazine articles and stuff like that to push me as a professional.

(personal communication, October 12, 2010)

For Carol, the idea of having frequent meetings and opportunities to collaborate, brainstorm and share ideas with colleagues and identified building experts, is a recurring message about the kind of support that she needs to continue to learn and improve her instruction.

In contrast to the perceived supports that exist at Casper Middle School, Carol was asked to share what obstacles exist in her school that makes differentiating instruction difficult. Carol stated that she believes that teachers can comply with what administrators expect by using “surface level strategies”, but she believes that a classroom that is truly differentiated is the result of the teacher “thinking in a different way about instruction”. Carol stated that differentiating requires teachers to be more flexible, open to new ideas and willing to do whatever it takes to reach all students.

When asked why not all teachers differentiate, Carol said

Teachers argue that they don’t have enough time and I agree that time is an issue. I mean, if every minute is taken, how do you have time to differentiate? Teachers also need to know what differentiation looks like, it needs to be modeled. We need to be able to work together. Isolation does not support differentiation.

(personal communication, October 12, 2010)

Carol also offered that she believes that some teachers “get away with not differentiating” because there is no real accountability or recourse for teachers who choose not to differentiate their instruction.

**The Leadership Influence**
When asked to share her perspective about the role of building leadership on teacher learning and ultimately on the implementation of differentiated instruction, Carol stated that “at Casper there are clear building expectations about differentiating and I just kind of felt that is what we do for kids regardless of if it was on our evaluations or not” (personal communication, October 12, 2010). In response to more questioning about administration having clear expectations, Carol stated that administration supports “a lot of professional development around it and the gifted and talented facilitator along with the special ed teacher extend our team meetings to discuss kids and their progress” (personal communication, October 12, 2010). In a follow up interview, Carol stated that: leadership can affect it [implementation] in a positive way or a negative way. Part of it is expectations and part of it is accountability when it comes to expectations. I think administration does play a big part in accountability and holding everyone to it. (personal communication, December 14, 2010).

To Carol the role of building leadership, which she referred to as administration, is very much about setting clear expectations around differentiating and then following up with some means of holding everyone accountable for adhering to the stated expectation.

**Calvin**

**Current Assignment**

Like Carol, Calvin served at Casper Middle School in School District #3. Calvin is relatively new to the profession and has a refreshingly youthful exuberance and unfettered passion for teaching. The author first met Calvin in May of 2010 when sifting through each school’s data and speaking with building administrators about exemplary differentiating teachers. Since the first meeting, Calvin has eagerly participated in this
study and has proven to be a wealth of information about his classroom practices, training as an educator and his planning process, with respect to designing a differentiated classroom.

Calvin is in his fourth year of teaching and has served three of the four years at Casper Middle School. He has a Bachelor of Arts degree in History from the University of Oregon and shared that he has a love for both literature and history and has most enjoyed opportunities when he has been asked to teach both language arts and social studies. Currently, Calvin is teaching eighth grade language arts and social studies. Calvin shared that he has three classes left before completing his Master’s of Arts in Education and hopes to complete that degree in the next year. He is a very positive, optimistic teacher who shared that he loves teaching and enjoys being with students. Calvin offered that he had initially planned to go to law school for most of his undergraduate studies, but elected to pursue education when he began thinking about the benefits of teaching and the long-term effects of education for the whole of society. Calvin said, “when I started soul searching for what I wanted to do with my life, I wanted to do something that had meaning and value at the end of the day” (personal communication, November, 11, 2010). For Calvin, teaching provided him the opportunity to act on his desire to make a difference.

**The Influence of Education and Experience**

When asked to describe his life as a student, Calvin shared that he was an identified gifted learner. Calvin said, “I was a gifted learner and was fairly advanced, so being given the opportunity to be challenged was definitely important” (personal communication, November 11, 2010). Calvin further explained that being identified as a
gifted learner gave him access to opportunities to explore and to be challenged beyond the classroom in both middle school and high school. Calvin offered that he has always been someone who loves school and loves learning and remembers feeling like the classes that were most valuable and most rewarding to be part of were classes that challenged him. He also commented that classes that had a focus on teaching for depth and for understanding, rather than surface-level information always seemed most intriguing to him. Specifically, Calvin recalls teachers who challenged students to learn in multiple ways and provided many approaches of accessing the curriculum. He stated, “I do remember and value teachers who gave us different ways of looking at the material or who used mnemonic devices and things like that to help us remember” (personal communication, November 11, 2010). Calvin did make the connection between his experiences as a student and his desire to create similar opportunities for his students and frequently made comments about the value of challenging each student. Calvin stated,

I can remember a lot of good teachers and some that weren’t so great and of course when you become a teacher you start to turn inward and reflect on your experiences and what made a difference for you. (personal communication, November 11, 2010)

Calvin traces his commitment to differentiating instruction back to his experience in school as a student and to his “belief that all students can learn”. Calvin shared that he has never believed that instruction that is given in a “one size fits all” approach is effective for all students and is often frustrated when his colleagues appear “unwilling to take risks with instruction” and who ardently commit to units or lessons that are considered traditional, non-negotiable units or lessons.
When asked to define differentiated instruction, Calvin stated that “differentiating instruction means providing students with different ways to show what they know and instructing in ways that meet their individual learning style” (personal communication, November 11, 2010). When asked how he gained mastery of this complex instructional approach, Calvin shared that differentiation was a “buzz word” in his graduate program and that it was a recurring concept throughout most of his graduate classes. He also shared that he attended seminars on cooperative learning and teaching for understanding, which was helpful in thinking of ways to differentiate his classroom. However, Calvin shared that most of his learning came from working with colleagues who were equally committed to differentiating and who were willing to share ideas and resources. Calvin shared:

when I started to hear about it [differentiation], the different ways of presenting and processing information, I think as a young and eager teacher it excited me. You see it as something that is going to be memorable and you always want to leave a mark in kids’ lives. (personal communication, November 11, 2010)

Calvin also cited learning from his mentor teacher, who is also a language arts teacher at Casper. As Calvin described the process, the mentor provided specific guidance about how to differentiate instruction; he observed Calvin in the classroom and provided useful feedback throughout Calvin’s first two years of teaching. Calvin also shared that brainstorming possible lessons, assessments and activities with his mentor was exceptionally helpful and continues to be the kind of interaction that he pursues with his colleagues.
Differentiated Instruction in the Classroom

On January 13, 2011, the author met Calvin outside of his classroom to briefly discuss the day’s observation, as the students entered his language arts classroom. Calvin was sitting in a chair outside of his classroom checking in with students by asking questions of personal interest. It was immediately obvious that an authentic connection between the students and Calvin had been formed and that Calvin took nurturing that relationship very seriously. Upon greeting Calvin and entering the classroom, the principle investigator felt bombarded by the vast amount of student work and posters of pop culture that adorned the walls. The classroom was busy, but comfortable and the students were very self-directed and quickly found their seats after collecting their personal folders. Calvin opened the class with a provocative question about a current pop star. As students began responding, Calvin reminded the students that they needed to raise their hands and that they needed to share their opinions and that they also needed to provide specifics that addressed the questions “how” and “why” they believed the way that they did. With the new parameters, the number of students blurting out opinions decreased and some relatively well-designed arguments were shared about whether the identified pop-icon would have a lasting career and whether his music would have lasting appeal to future generations.

Once the opening debate concluded, Calvin asked students to take out their vocabulary folders for the day’s vocabulary review. With a word list projected onto the whiteboard, Calvin reminded students that they need only write sentences for the words that were in their identified color group. In a follow up conversation at the conclusion this class, Calvin shared that he had given a pre-test at the start of the quarter, which was
used to create three groupings “grade level, below grade level and above grade level”.
These groupings were then assigned colors and were asked to work with the vocabulary
lists that corresponded to their identified colors. Essentially, Calvin created three groups
based on ability and then created lists and activities that were designed to challenge each
114). For each word that was projected onto the whiteboard, Calvin made up a sentence
that was directly related to the school, the current sports seasons, and other subjects,
which often elicited laughter from the class.

Following the vocabulary lesson, which lasted approximately twenty minutes,
Calvin reviewed the expectations for the upcoming project, which was to identify and
research an American figure that was influential. In the packet provided by Calvin, a
rubric, a description of the project, some examples of topics, and a list of essential
vocabulary words were included. For this project, students were given the freedom to
choose a figure that was of personal interest and who contributed in a way that was
identified as significant by each student. Students shared with Calvin that they were
researching individuals like presidents, movie starts, sports stars, and musicians. At the
close of the review of the project, Calvin reminded the class that the purpose of the
project was not to simply record facts about the selected “heroes”, rather the goal was to
describe the “context, relevance and influence” of the selected figures. Following the
review, Calvin gave students time to work in pairs or to work independently, while he
rotated around the room meeting with each student to check on progress and to offer
assistance. The students, though wrestling with the abstract concepts of “influence” and
“context”, were engaged and appeared focused on achieving the learning goals set by the teacher.

In Calvin’s classroom, what was most easily recognizable was the teacher’s passion for teaching and commitment to building relationships with each of his students (Tomlinson, Brimijoin & Narvaez, 2008, p. 114). Additionally, it was observably obvious that Calvin gave his students formative assessments to gauge performance as well as to develop groups designed to provide challenge to each student at the appropriate level (Tomlinson, 2000; Tomlinson, Brimijoin & Narvaez, 2008, p. 114). In Calvin’s classroom, student interest was not only accessed to support assigned activities and assessments, they were celebrated and encouraged to be employed as tools to better express individual student learning and to access larger, abstract concepts.

Much like his colleague Carol, Calvin did a great job developing a class that differentiated with intentional focus on providing flexibility and choice with the “process” of the activity and creating a learning environment that was active and centered on student need rather than compliance measures. However, Calvin was more adept at leveling the “content” of his project. An area that seemed a little less developed was Calvin’s attention to giving students a choice and flexibility with the final product, or the means of demonstrating learning and understanding. When asked about this finding, Calvin did shared that he was open to having students choose a different way to share their learning, other than the assigned presentation, however, this flexibility was not observed as part of the formal observation while in the classroom.
Supports and Obstacles to Implementing Differentiated Instruction

When challenged to offer insight into the supports and obstacles to the implementation of differentiated, Calvin offered several suggestions. As mentioned previously, Calvin acknowledged that having a mentor in the first two years at Casper Middle School was exceptionally useful. Calvin also referenced an instructional coach, that no longer works in the building due to budget cuts, as a useful resource in thinking of new approaches that would reach all students and that would further differentiate instruction (personal communication, December 13, 2010). Much like having a strong mentor and coach, Calvin shared that having a full-time staff member who was available to talk specifically about instruction and who was available to observe and provide feedback was especially helpful. He stated, “I think in a school there needs to be a brain trust that has people with creative ideas who are willing to share, plan together and pool resources” (personal communication, November 11, 2010). Additionally, Calvin identified the building principal as a good resource in brainstorming about instruction and problem-solving, especially since she was once a language arts teacher too. Interestingly, Calvin was the only participant in this study to identify the building principal as a support in brainstorming and developing approaches to differentiate instruction. Calvin was very clear that having time and opportunities to collaborate with knowledgeable and committed colleagues was most useful to him in learning about and mastering differentiated instruction (personal communication, December 13, 2010).

When asked about obstacles that may impede the implementation of differentiated instruction, Calvin offered that he believes that schools are too focused on assessments
and data and not focused enough on instruction and lesson planning. When asked to be more specific Calvin stated:

> [i]n a school there has to be a culture of teachers willing to take risks. If too much emphasis is put on assessments and data, I think it has a negative effect by heaping on too much pressure. I know that I have felt that sense of conflicting demands. (personal communication, November 11, 2010)

Calvin also made an observation that “traditional instruction is rigid, not flexible” while “differentiated instruction is flexible and requires the ability to adjust quickly”. These differences in approach create a philosophical gap between teachers committed to the “old school” method of teaching and the newer approach to teaching. He stated, “as a new teacher, having trust that you can do something different or tweak what has been done, is important” (personal communication, November 11, 2010). This discrepancy in practice within the same school represents the depth and prevalence of the complex issue of successfully implementing differentiated instruction. Calvin suggested that although differentiated instruction is an articulated expectation, “it often gets pushed aside due to competing obligations” and the “crisis of the moment”. Calvin believes that differentiating instruction has to start with a “personal belief that all students can learn” and that differentiating instruction “must come from a personal conviction”. Calvin suggested that professional development opportunities are often too focused on quick, easy strategies that lead to more superficial implementation rather than focusing on a deeper understanding and sustainable change in practice. He argues that there must be a core of respected staff members who can provide leadership and can make implementation easier for others.
The Leadership Influence

In the previous section it was noted that Calvin was the only participant who identified the principal as a support to differentiating instruction. To further explore Calvin’s perspective about building leadership, Calvin was asked to describe the affect of leadership on the implementation of differentiated instruction. Similar to Carol, Calvin stated that “I think when building leadership makes it [differentiation] a goal and includes it in conversations at all meetings and things that you do, it shows the commitment that they have to the idea of differentiating” (personal communication, November 11, 2010). When challenged to explain why it is important to have administration constantly “bringing differentiation to the table” Calvin suggested that it encourages teachers to “take risks and to challenge each other” when everyone knows that differentiation is a priority. He further suggested that “when administration prioritizes something like differentiation and commits to modeling or having others model it; it creates a kind of buy in from the staff” (personal communication, December 13, 2010).

Beyond simply making differentiation part of the ongoing dialogue in the school, Calvin stated that “some things that I find useful are when administrators observe your classroom and then provide specific and targeted feedback” (personal communication, November 11, 2010). Calvin made frequent references to the benefit of dialogue and sharing ideas with administration. To the author it was clear that Calvin is not intimidated by administration and that he sees feedback as an opportunity to learn. However, Calvin did comment that not all teachers perceive feedback as support, by stating:
I have pretty good communication with administrators, but there is a fear, especially among teachers who don’t have tenure, that if they ask for help or if you say that you are struggling with a concept or strategy, that it is a sign of weakness. (personal communication, November 11, 2010).

When asked to share more about the notion that administrators should model differentiation, Calvin commented that he sees the role of administration as being similar to the role of teachers. He said:

like teachers, administrators put together lessons and units for professional development days, but do they ever check to see what we want or what we need? It is definitely a conversation that you hear around the lunch table, it is not uncommon to hear “I wish they would differentiate this; they preach differentiation but they don’t differentiate these days for us.” It would be good to see more modeling of differentiation form administrators and the identified experts on staff. (personal communication, November 11, 2010)

In fact, throughout the data collection for this study, the need for more modeling of specific strategies and approaches to differentiation is a definite theme. In this study, even the identified expert differentiating teachers make the plea to have administrators take a more active role in modeling, supporting peer observation, and collaboration. There is no question that leaders are perceived to be influential with respect to the implementation of instructional strategies, but the degree of involvement and the role of the building leader is as diverse as the personalities of the cases included in this study.

Overview of the Cases
To more completely understand the implementation of differentiated instruction in public middle schools, four cases were selected to represent expert differentiating teachers. Over the past nine months, data has been collected through semi-structured interviews, informal interviews, classroom observation, participant journaling and the collection of relevant documents. The initial phase of understanding the collected data was to create a narrative portrait of each of the cases as professionals who are expert differentiating teachers, within the context of each of the selected schools. While there are some obvious similarities across the cases, such as all of the teachers are middle school teachers, identified and assessed to understand and to implement differentiated instruction, there are also some differences among the four cases selected. Table 4.2 was created as a quick reference to compare each of the cases with respect to location, education, and perceptions about differentiated instruction. In Table 4.2 all of the cases are delineated, with relevant data that is intended to provide a more complete perspective of each case and some of the reasons for their selection to participate in this study. However, a full cross-case analysis (Miles & Huberman 1994; Stake, 2006) of the similarities and differences across the cases and the ties to the key issues from the included theories will follow in Chapter 5.
<table>
<thead>
<tr>
<th>Case</th>
<th>School/District</th>
<th>Degrees Earned</th>
<th>Yrs. Exp.</th>
<th>Definition of DI</th>
<th>Professional Allies</th>
<th>Obstacles Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annette</td>
<td>Acadia Middle School, D#1</td>
<td>BS - Social Sciences and Political Science, MA - Special Education (May 2011)</td>
<td>11</td>
<td>Meeting each student’s needs at their level and closing the educational gap on their learning</td>
<td>* Librarian * Teammate (Math) * Department Colleagues</td>
<td>* Time for planning and collaboration * Training using DI * Modeling best practices * Assessing students to identify need * Admin. support</td>
</tr>
<tr>
<td>Bonnie</td>
<td>Berliner Middle School, D#2</td>
<td>BA – English, MA – Curriculum &amp; Instruction</td>
<td>8</td>
<td>Meeting each student where he/she is currently performing and leveling instruction to help all students show academic gains</td>
<td>* Resource Teacher * TAG Coordinator * Literacy Specialist</td>
<td>* Vast span of student ability * Time for planning and collaboration * Opportunity to collaborate with others * Too little accountability</td>
</tr>
<tr>
<td>Carol</td>
<td>Casper Middle School, D#3</td>
<td>BA – Middle School, Library Media</td>
<td>14</td>
<td>Providing for a student’s learning by presenting different instruction considering depth, speed and choice</td>
<td>* Talented and Gifted Coordinators * Special Education Teachers</td>
<td>* Time to plan * Lack of modeling * Philosophical differences (old vs. new school)</td>
</tr>
<tr>
<td>Calvin</td>
<td>Casper Middle School, D#3</td>
<td>BA – History, MA – Education (May 2012)</td>
<td>4</td>
<td>Providing students different ways to show what they know and instructing in ways to address different learning styles</td>
<td>* Mentor * Instructional Coach * Principal * Wife (teacher)</td>
<td>* Planning time * Experience developing lessons * Lack of trust * Competing Obligations</td>
</tr>
</tbody>
</table>
Chapter 5

Cross Case Analysis

“All truths are easy to understand once they are discovered; the point is to discover them”

-Galileo Galilei

Conducting this case study provides the opportunity to examine the complex, situated, and problematic issue of implementing a complex instructional practice through an in-depth investigation of four typical classrooms with expert differentiating teachers (Stake, 2006, p. 10). To uncover the conditions that exist, in schools, for the successful implementation of differentiated instruction, data was collected and analyzed over a nine month period. The data was intentionally collected to provide a rich description of what is truly happening, with respect to differentiating instruction in each of the selected classrooms, as well as to gain insight into the influences on teachers as they worked toward gaining mastery of differentiated instruction. To maintain the focus of this study, the three mediating constructs: the teacher as individual, existing communities of practice and the influences of building leadership, serve as the underpinning for this project and are woven throughout all aspects of the data collection and analysis. These three constructs were used to frame the interviews, observations and journaling activities and they are also used to tie the collected data to the theoretical framework.

Following the detailed description of each case in the previous chapter, an analysis of the collected information was conducted to explore emergent themes,
categories and patterns within the collected data (Patton, 2002, p. 56). This chapter will provide a description of the data that was collected, the data analysis process, the findings that resulted from the cross-case analysis and a discussion of the findings.

**Review of Data Collection**

At the heart of this dissertation, is the inquiry into how individual teachers learn about and implement differentiated instruction. This type of investigation is inherently complex because it requires making sense of and gathering data about abstract concepts while attempting to parse out rhetoric and compliance language to get to the actual motivators and supports that lead to deep implementation. To accomplish this task, data was collected holistically and I was consciously sensitive of the context from which the data was gathered. Because each case was selected very purposefully, as expert differentiating language arts teachers, and each case resides within the context of schools that vary in size, demographic and location within the state of Colorado. To describe the influences on teacher learning and implementation of differentiated instruction, the analysis in this chapter delves deeply into the collected data. By examining the experiences, beliefs, perceptions and classroom practices of each of the selected cases, though the lens of both sensemaking and situated learning theories, I begin to answer the guiding research question regarding the conditions that exist for teachers to learn about and implement differentiated instruction.

Table 5.1 provides an illustration of the data that was collected and the connection of the data to the overarching focus of this study.
Table 5.1

*Data Collection and Alignment to Research Question*

<table>
<thead>
<tr>
<th>Focus Item</th>
<th>Data Collection Type</th>
<th>Objective of the Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiation in Practice</td>
<td>• Interview of building administrator(s)</td>
<td>• Informal interviews with school administrators were conducted to help identify expert differentiating teachers</td>
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<tr>
<td></td>
<td>• Completion of the “Teacher Questionnaire to Gain Baseline Data on Differentiated Practices” (Tomlinson, Brimijoin, Narvaez, 2008)</td>
<td>• Results from the questionnaire were used to identify and select the expert cases for this study</td>
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<tr>
<td></td>
<td>• Visitation of Schools and Classrooms</td>
<td>• Classroom and school visits were made to get a sense of the layout, structure and feel for each school and classroom</td>
</tr>
<tr>
<td></td>
<td>• Formal Observation</td>
<td>• The formal observation was made using a common template to identify commonalities and differences in practices among the cases</td>
</tr>
<tr>
<td></td>
<td>• Participant Journaling</td>
<td>• Each case was asked to journal specifically about prompts related to the theoretical framework and research questions</td>
</tr>
<tr>
<td>Understanding the Individual Teacher</td>
<td>• Participant Journaling</td>
<td>• Each case was asked to journal about their experiences as a student, relevant coursework in college and feelings about differentiated instruction</td>
</tr>
<tr>
<td></td>
<td>• Formal Observation</td>
<td>• Each case was observed to capture how differentiation was implemented in the classroom, using a common template</td>
</tr>
<tr>
<td></td>
<td>• Semi-structured Interviews</td>
<td>• Semi-structured interviews were conducted to explore prior education experiences, and beliefs about differentiation</td>
</tr>
<tr>
<td></td>
<td>• Informal Communication</td>
<td>• Informal communication occurred throughout the nine months of data collection and notes were taken of interesting and useful comments, remarks or experiences</td>
</tr>
<tr>
<td>Exploring Communities of Practice</td>
<td>• Participant Journalizing</td>
<td>• Each case was asked to journal about the times, places, conditions and colleagues that were supportive to their learning and</td>
</tr>
<tr>
<td></td>
<td>• Semi-structured interviews</td>
<td></td>
</tr>
</tbody>
</table>
Examsining the Role of Building Leadership

- Formal Observation
- Participants were interviewed and asked to respond to questions that targeted collaboration and perceived supports for teacher learning
- All participants were observed then asked to discuss the lesson and the supports that they utilize in developing differentiated lessons, activities and assessments

- Participant Journaling
- Semi-structured Interviews
- Informal Administrative Interviews

- Each case was asked to journal about the role of building leadership on teacher learning and implementation of differentiated instruction
- Interviewees were asked to share their perceptions of the role that leadership plays with teacher learning and implementation of differentiated instruction
- Administrators at each selected site were asked to identify expert differentiators and to describe why the individuals were selected

Following the data collection and the creation of a detailed report and narratives for each case (Stake, 2006) an in-depth cross-case analysis of all collected data was conducted (Miles & Huberman, 1994; Stake, 2006). To begin the analysis, all data was transcribed or converted into a common format. Utilizing the word processed documents; a data matrix for each of the data collection methods was constructed (Miles & Huberman, 1994, p. 240). The matrices for each method were organized by case and by research topic or question and used to compare findings to identify patterns and themes across the cases, as shown in Table 5.2. Once organized into matrices by case and research topic or question, the data was further analyzed looking for patterns, themes, commonalities and contrasts across the cases (Miles & Huberman, 1994, p. 243). To
maintain the integrity and value of conducting this case study analysis, caution was given to insure that the uniqueness of each case was honored, while being vigilant about identifying and capturing emerging themes and ideas across the cases. Table 5.2 is a conceptually clustered matrix that organizes the summary findings by case and by the three mediating variables that provide the conceptual framework for this study: the teacher as individual, communities of practice and the influences of leadership. The items represented in Table 5.2 are the result of reviewing and analyzing all of the collected data and connecting the emergent themes and ideas to the conceptual framework.

Table 5.2

*Conceptually Clustered Matrix by Case*

<table>
<thead>
<tr>
<th>Annette – Acadia Middle School</th>
<th>Personal Connection to DI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* “I was frequently grouped with the high achieving students as a student” (personal communication, September, 2010)*</td>
</tr>
<tr>
<td></td>
<td>* “I appreciated being challenged as a student, outside of the regular classroom” (personal communication, September, 2010)*</td>
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<tr>
<td></td>
<td>* “I love working with all students and I really value a career working with kids” (personal communication, September, 2010)*</td>
</tr>
<tr>
<td></td>
<td>* “My experience [with high achieving students] influences my focus on grouping and needing to understand my students” (personal communication, September, 2010)*</td>
</tr>
<tr>
<td></td>
<td>* “Some of my background, knowing this did not work for me as a student, makes me think of helping students learn in different ways” (personal communication, September, 2010)*</td>
</tr>
<tr>
<td></td>
<td>* “I am mostly self-taught through personal research and reading” (personal communication, September, 2010)*</td>
</tr>
<tr>
<td></td>
<td>* “Research, talking with others, getting to know my students and getting to know my own strengths” (personal communication, September, 2010)*</td>
</tr>
<tr>
<td></td>
<td>* Student in a Master’s program in Special Education*</td>
</tr>
</tbody>
</table>
Beliefs About DI

- “Differentiated instruction is instruction that is delivered at different levels. It is meeting students’ needs at their level” (personal communication, August, 2010)
- “Differentiating instruction is big and takes extra time” (personal communication, September, 2010)
- “I think differentiation happens through trial and error” (personal communication, September, 2010)
- “I think differentiation is one of those terms, like RtI, that is tossed around and everyone says they do it, but we all know that most don’t do it” (personal communication, September, 2010)
- “If done correctly and used as much as you can, I think it benefits students” (personal communication, September, 2010)
- “You have to meet them (students) at their needs, they have to have the same content, but they have to be met at their needs to understand the content” (personal communication, September, 2010)
- “Most teachers aren’t doing it (differentiating) but they say they are doing it to keep the administrators off of their back” (personal communication, September, 2010)

Communities of Practice

- “Having [my] class sizes of 38, I don’t care if they are low, medium or high, it’s a lot of kids and a lot of time” (personal communication, September, 2010)
- “I’m not sure that the structures of traditional education allow for easy differentiation, with rigid daily schedules, student groupings that can make tough behavioral classes and large class sizes” (personal communication, September, 2010)
- “The biggest obstacle is having enough time and knowing how to meet the needs of all students” (personal communication, August, 2010)
- “No one is giving us guidance about how to do it (differentiate), but they (administration) expect us to do it” (personal communication, September, 2010)
- “We don’t get time to collaborate, which is something we really need to do anything well” (personal communication, September, 2010)
- “We have time set aside, team meetings, for differentiation and for collaboration, for everything, but it’s constantly, more times than not, interrupted” (personal communication, September, 2010)
- “Having time to talk to other teachers and the librarian has helped me to get new ideas and approaches to use in my classroom” (personal communication, September, 2010)
- “Giving us time to learn from each other. You learn best from a lot of your colleagues through talking and observing or just sharing ideas” (personal communication, September, 2010)
- “Having release time, even if it is a short time, to visit other
classrooms and to see what is going on and how others teach”
(personal communication, September, 2010)

Influences of Leadership
* “They (administrators) need to think about class sizes and giving
teachers time to plan and organize if they expect them to
differentiate” (personal communication, September, 2010)
* “It (differentiation) was taken more seriously by everyone when the
former principal talked about it, he always talked about it” (personal
communication, September, 2010)
* “Most teachers aren’t doing it (differentiating) but they say that
they do for evaluations and because they know that it is an
expectation. More accountability is needed to really have people do
it” (personal communication, August, 2010)
* “I think having administration or other teachers model things like
differentiation would help and would reduce anxiety on staff”
(personal communication, September, 2010)
* “Administrators need to train people to know how to differentiate
and how to group students if they really want it done in the
classroom” (personal communication, September, 2010)
* “The thing is, they [administration] push it, especially now with RtI
and Tier 1 and Tier 2, but then they don’t give you any ideas on how
to do it, or any way to do it. It’s an expectation that has been set,
without guidelines” (personal communication, September, 2010)
* “Principals always interrupt our plan time and get us off track with
planning. It’s like we have too much going on and not enough time
to get it all done” (personal communication, September, 2010)
* “I need to know that they (administration) trust me and won’t ding
me for trying something out and it not working” (personal
communication, September, 2010)
* “I think some modeling from the principal would be nice. If they
are the experts, we should be able to learn from each other” (personal
communication, September, 2010)
* “They (administration) encourage peer observation and offer to
cover classes, but I never have seen it done. I think it would be great
to see other classrooms and to have other teachers in my room”
(personal communication, September, 2010)

Bonnie – Berliner Middle School
School District #2

Teacher as Individual

Personal
Connection to
DI

* Identified as a Talented and Gifted student when in elementary
school (personal communication, October, 2010)
* “Received enrichments in language arts, mostly with writing, in
middle school” (personal communication, October, 2010)
* “The best teachers pushed me, even though I would whine, they would still push me” (personal communication, October, 2010)
* “My job as a teacher is making sure that each kid can get what they need to meet the standards” (personal communication, October, 2010)
* “To me, differentiating just makes sense, it’s really how I think about teaching” (personal communication, October, 2010)

**Training Opportunities**

* “I had training with how to build rubrics, but I haven’t really had formal classes on differentiation” (personal communication, October, 2010)
* “In my college classes, I had some limited experience with tiered lessons” (personal communication, May, 2010).
* “A lot of my learning (about differentiation) has come from just figuring out what works, what doesn’t work” (personal communication, October, 2010)
* “I have coached soccer for seven years. I think my coaching has helped me to understand student needs” (personal communication, October, 2010)

**Beliefs About DI**

* “Differentiated instruction is meeting each student where he/she is currently performing, using assessments and then leveling instruction” (personal communication, May, 2010)
* “I think good teachers intuitively differentiate their instruction” (personal communication, October, 2010)
* “I believe that differentiation is necessary. Education isn’t a one-size fits all. It never has and never will be” (personal communication, October, 2010)
* “I have kids reading from 1st grade, ninth month level to 5th grade, third month, so I’ve got to differentiate, I have to meet them where they are” (personal communication, October, 2010)
* “I think differentiating is harder than not. It is easier to teach one way, to teach one size fits all” (personal communication, October, 2010)
* “I believe that you can legislate differentiation; doesn’t mean everyone is going to do it” (personal communication, October, 2010)
* “I like challenges, I’m never afraid to try anything in my classroom if I think it might be good for my students” (personal communication, October, 2010)
* “I can’t sympathize with them (teachers) who start saying it is just one more thing. It’s not like an option, it (differentiating) is something I’ve always done” (personal communication, October, 2010)
Communities of Practice

* “If I was in charge, I would give my teachers time to go watch the ones who do it successfully. So they can see. If you were to walk into any of my classes you would see kids being differentiated for when they don’t even realize it” (personal communication, October, 2010)

* “I think in our building that time is a scarce commodity. So I think teachers think they have to create three different lesson plans to differentiate.” (personal communication, October, 2010)

* “I would love to see classes that are more fluid, movement, grouping by ability and not based on age. I’ve had mixed grade classes before and it was cool to see the kids working together” (personal communication, October, 2010)

* “Now that we have classes for students above and below grade level, teachers are saying, ‘oh well, they are in the accelerated co-taught, so there is no need for me to differentiate’ that is one of the little beasts that we have created for ourselves” (personal communication, October, 2010)

* “Teachers need to feel the have the leeway to take the risks and it’s not going to come back on them. I think there is a fear around over-accountability that needs to be taken away. Taking risks is risky when you know that CSAP is around the corner” (personal communication, October, 2010)

* “To support teachers, the TAG coordinator has purchased curriculum and made lessons. The lessons are there, the curriculum has already been accelerated and adjusted for kids below grade level” (personal communication, October, 2010)

* “I work with the TAG coordinator and the Language Arts department. I also work with our RtI coordinators to show them how to adjust instruction in the classroom without having to send a kid to a co-taught class” (personal communication, October, 2010)

* “The principal has been really awesome about getting us curriculum to offer to high and low kids” (personal communication, October, 2010)

* “Something that has really helped this year is letting the staff pretty much take over the PD days. If it is one of us (teachers) saying hey, look at us, look at what we did in collaboration with our colleagues, it doesn’t appear top-down and more people will try it” (personal communication, October, 2010)

* “My best meetings are during lunch with people that want or can meet with me to talk at that time. We talk about everything including how to differentiate our classes” (personal communication, October, 2010)

* “I started differentiating as a student teacher. I had a really good mentor teacher who showed me some tricks and helped me to think about differentiating” (personal communication, October, 2010)
* “Teachers seem to have the whole mindset of more on their plate, that this is just one more thing” (personal communication, October, 2010)
* “There is fear around differentiating. People need to take out the fear. I think differentiating has been made into a boogieman so to speak. It is something that is lurking around the corner, they know they have to do it, but they keep convincing themselves that it is going to go away and that they can’t do it” (personal communication, October, 2010)
* “One obstacle is, well look, our principal is one of those guys that you either love or hate. The people that like him try for him and the people that don’t like him will use it as one more reason to resist him” (personal communication, October, 2010)
* “Teachers complain that they haven’t had a single personal plan time and you know what, they are right. There are meetings and meetings and meetings and no time to do personal planning and grading” (personal communication, October, 2010)

Influences of Leadership
* “Differentiation is one of those things that is talked about a lot, but there is a lot of resistance to it, because it has been mandated by the principal and the TAG coordinator has said that all teachers need to show that they can differentiate” (personal communication, October, 2010)
* “I think the principal supports me and challenges me to take risks, but others see that as him trying to entrap them so that he can get rid of them” (personal communication, October, 2010)
* “Administrators send mixed messages about CSAP and differentiating. On the one hand they say CSAP is just a snapshot. And then they say that we are not doing a good job because not all students are growing and we need to differentiate more” (personal communication, October, 2010)
* “Since this principal has been here, more attention has been given to those low kids and high kids. He’s addressing the matter. Having his support has been just awesome in being able to differentiate” (personal communication, October, 2010)
* “There is really no feedback from administration, not about instruction anyway. They seem too busy to be in classrooms much” (personal communication, October, 2010)

Carol – Casper Middle School
School District #3

Teacher as Individual

* “I always liked school and always enjoyed the challenge of learning” (personal communication, October 12, 2010).
* “I was an identified talented student and tried to stay involved in
clubs and sports at school” (personal communication, October, 2010).
* “When I think about good teachers, I believe that the really great teachers were noteworthy because they were always accessible to students” (personal communication, October, 2010).

* “Differentiated instruction was touched on briefly during my undergraduate classes, but most of my learning has come from reading journals and books about instruction and differentiation” (personal communication, October, 2010).
* “I have also learned some specific strategies from district level professional development and have used those [strategies] in my classroom” (personal communication, October, 2010).
* “It wasn’t until I got to this school that it was really a term that was bandied about. It was really expected that we tailor education” (personal communication, October, 2010).

* “It [differentiation] is providing for each student’s learning by presenting different instruction, not more instruction. Depth, speed and choice are the three words that I think of when preparing to differentiate for a student or class” (personal communication, October, 2010).

* “Flexibility is important. In a truly differentiated classroom you would have rooms conducive to learning stations. In a perfect world, rooms would have tons of technology that is easily accessible to use and to try out new things. They probably wouldn’t all be square and exactly the same throughout the school” (personal communication, October, 2010).

* “Good teachers have an excellent command of the classroom and an engaging teaching style and present ideas and lessons in ways that ask you to do your best” (personal communication, October, 2010).
* “They must really love their subject to be able to energize their students” (personal communication, October, 2010).
* “Good teachers were the ones that you really truly felt that they cared whether you succeeded or didn’t” (personal communication, October, 2010).
* “I think it [differentiation] is important, it really is valuable to kids” (personal communication, October, 2010).
* “The question in education isn’t what do students need, it’s about what does this student need” (personal communication, October, 2010).

Communities of Practice
* “I think it is harder to stick to it, to keep trying to differentiate when you know that some just choose not to” (personal communication, October, 2010).
* “I think feeling isolated and not having the opportunity to ping
ideas off of each other is a challenge” (personal communication, October, 2010).
* “At this school we have a really good Gifted and Talented facilitator as well as special education teachers that anyone can go to as a resource” (personal communication, October, 2010).
* “We had lots of professional development around it and it is something that our Gifted and Talented and our Special Ed teachers bring up in our weekly team meetings” (personal communication, October, 2010).
* “Parents have high expectations and they can really push, but they can also offer some really good information about who this guy is and what they need” (personal communication, October, 2010).
* “I think culture and in this school, teaming, plays a big part in how much differentiating is going on” (personal communication, October, 2010).
* “As a new teacher, I think a mentor is important. Having someone who can model and demonstrate strategies, while you watch. Getting feedback and making it a back and forth kind of thing” (personal communication, October, 2010).
* “I think it is important to play ideas off of each other so I meet with colleagues in my department, in my grade level, I go to the level above me” (personal communication, October, 2010).
* “How much teachers feel tasked; if every minute of my day is spent doing this, that and the other, then it is hard for me to collaborate and to spend time planning like I know I should” (personal communication, October, 2010).
* “The biggest obstacle is time. Time to meet with other people, time to plan things, time in the day. It’s a big thing to differentiate, so you need time” (personal communication, October, 2010).
* “An obstacle for teachers is the unknown; teachers don’t know what it [differentiation] means, what they can do in a given lesson” (personal communication, October, 2010).

Influences of Leadership
* “I started incorporating that [differentiated instruction] into my classroom because it was so expected that you did it as part of what a good teacher does in this building” (personal communication, October, 2010).
* “Clear building expectations from admin made it clear that [differentiated instruction] is what we do for kids regardless of if it is on our evaluations or not” (personal communication, October, 2010).
* “I think leadership can effect teacher’s choosing to do it [differentiate] in a positive or a negative way. Part of it is expectation but part of it is accountability with the expectation” (personal communication, October, 2010).
**Teacher as Individual**

**Personal Connection to DI**

- “I was a gifted learner and was fairly advanced, so being given the opportunity to be challenged was definitely important” (personal communication, November, 2010).
- “I do remember and value teachers who gave us different ways of looking at the material or who used mnemonic devices and things like that to help us remember” (personal communication, November, 2010).
- “I can remember a lot of good teachers and some that weren’t so great and of course when you become a teacher you start to turn inward and reflect on your experiences and what made a difference for you” (personal communication, November, 2010).

**Training Opportunities**

- “The term itself [differentiation] was always a buzz word in grad school” (personal communication, November, 2010).
- “I have attended grad school seminars on cooperative learning and other methods of synthesizing and teaching for understanding” (personal communication, November, 2010).
- “My first year of teaching I went to a 3 day seminar that was helpful and provided specific example of good practices, tiering, ability grouping and I remember thinking that this is how I was going to reach my kids” (personal communication, November, 2010).

**Beliefs About DI**

- “I think my commitment to differentiating instruction goes back to the belief that all students can learn” (personal communication, November, 2010).
- “Differentiating instruction means providing students with different ways to show what they know and instructing in ways that meet their individual learning style” (personal communication, November, 2010).
- “Differentiating begins with assessing learning styles, really understanding if someone is visual, or kinesthetic or auditory and then finding materials and activities to address those styles” (personal communication, November, 2010).
- “When I started to hear about it [differentiation], the different ways of presenting and processing information, I think as a young and eager teacher it excited me. You see it as something that is going to be memorable and you always want to leave a mark in kids’ lives” (personal communication, November, 2010).
- “Differentiating instruction has to start with a personal belief that all students can learn and I think it has to come from a personal conviction” (personal communication, November, 2010).
- “Differentiation is giving choice and assessing in multiple ways”
Communities of Practice
* “Traditional instruction is rigid, not flexible” while “differentiated instruction is flexible and requires the ability to adjust quickly” (personal communication, November, 2010).
* “It [differentiation] often gets pushed aside due to competing obligations and the crisis of the moment” (personal communication, November, 2010).
* “Too much emphasis on assessments and performance, to the point that is creates too much pressure, can be a real negative for teachers” (personal communication, November, 2010).
* “There has to be a culture of teachers willing to take risks” (personal communication, November, 2010).
* “As a new teacher, having trust that you can do something different or to tweak what has always been done is important” (personal communication, November, 2010).
* “I think in a school there needs to be a brain trust that has people with creative ideas who are willing to share and plan together” (personal communication, November, 2010).
* “I think the team environment in middle schools really builds a culture that leads to differentiation” (personal communication, November, 2010).
* “I really like when teachers stop by and we have a conversation about kids or something germane to planning for the day or sharing something that went especially well in their classes” (personal communication, November, 2010).
* “Having a common place with easily accessible resources, like online or on a public drive, is helpful and reduces the intimidation factor around doing something like differentiation” (personal communication, November, 2010).
* “Differentiated instruction does not mean easy instruction and requires a lot of work in the front end” (personal communication, November, 2010).
* “To be able to have the ability, to have the time, or to keep people from hiding behind ‘sounds good but I don’t have the time’ would be a huge help” (personal communication, November, 2010).

Influences of Leadership
* “I think when building leadership makes it [differentiation] a goal and includes it in conversations at all meetings and things that you do, it shows the commitment that they have to the idea of differentiating” (personal communication, November, 2010).
* “Some things that I find useful are when administrators observe your classroom and then provide specific and targeted feedback” (personal communication, November, 2010).
* “It would be good to see more modeling of differentiation from administrators and the identified experts on staff” (personal communication, November, 2010).
* “I have had pretty good communication with my administrators, but there is a fear, especially among teachers who don’t have tenure, that if they ask for help or if you say that you are struggling with a concept or strategy, that it is a sign of weakness” (personal communication, November, 2010).
* “When building leadership makes it [differentiation] a goal and includes it in conversations at all meetings and things that you do with students; I think that is really important to get everyone on the same page” (personal communication, November, 2010).

Guided by Stake’s (2006) description of a cross-case analysis, the identified concepts, ideas and themes from each case were isolated from each of the matrices and recorded in a meta-matrix used to consolidate the information. To further parse the data, clusters of common ideas and concepts from all of the cases were created and labeled. To identify the most relevant themes, concepts and ideas, an initial rating was established based on the number of cases that made the same or very similar statement (Miles & Huberman, 1994). Since this study has four participating cases, the rating was based on a simple 1-4 scale. In this instance a “1” rating would indicate that only one case made the statement and a “4” would indicate that all cases made the same or very similar statement (Stake, 2006). In an effort to capture the most relevant and frequently reported themes across all of the cases, only themes and ideas that were common across all four cases were included in the matrix, as shown in Table 5.3. Any exceptions to this established rule, which are identified explicitly in Table 5.3, were made to include comments that were of particular interest in understanding or gaining insight into the influences on teacher learning and the implementation of differentiated instruction.
Findings

Merging the common themes into clusters (Stake, 2006, p. 60) provided more focus and coherence to the large amount of data that was collected and analyzed. As shown in Table 5.3, each cluster was named or described based on its common theme or characteristic. The identified clusters were then aligned with the research questions that were connected to them in the development of the study. In this case, the three mediating constructs that guide this investigation, the teacher as individual, communities of practice and leadership, became the main headings, followed by the related research questions. These were then connected to the corresponding cluster. Table 5.3 provides a representation of the initial reporting of themes once the cases and themes were merged into a common matrix.

Table 5.3

Matrix of Themes

<table>
<thead>
<tr>
<th>Construct</th>
<th>Description of Theme</th>
</tr>
</thead>
</table>
| Q1. How have expert differentiating teachers gained mastery of differentiated instruction and how do they continue to develop their understanding and implementation? | * Differentiated instruction is critical to student success  
* Teachers use their own learning experiences as students to guide instruction  
* Caring about students and knowing each student individually is part of differentiating  
* Learning to differentiate is done through a “process of trial and error”  
* Differentiating is difficult and more challenging than “one size fits all”  
* All cases had some exposure to differentiation during formal education. |

Teacher as Individual
Q 2. What obstacles and supports exist that influence the successful implementation of differentiated instruction in public middle schools?

Communities of Practice

* Time and opportunities to collaborate with peers is needed
* Informal but daily/frequent meetings with colleagues of choice
* Having models of specific instructional strategies to differentiate instruction
* Targeted and differentiated professional development to support teacher learning
* Protected time to meet with and access experts in the school
* Departments that focus on instruction and talk specifically about strategies and practices
* Peer observations that are frequent and focused on instruction, with feedback
* Teacher leaders that model and share practices in a non-threatening way to staff
* Leadership from talented and gifted and special education teachers was identified as a support
* Isolation or a sense of feeling “on their own” to create a differentiated classroom
* Some teachers choose not to differentiate and make it more difficult for those who choose to differentiate

Q 3. How do communities of practice, both formalized and informal, influence the construction of meaning, sharing of practice and continuous learning of differentiated instruction?

Communities of Practice

* Change in practice benefits when there is a whole school discussion about instruction
* Three of the teachers in this study indicated that there is a culture in their school that demands differentiating instruction
* Expert teachers indicated that having mentors was especially helpful
* Experts in the building tended to be those who were once identified as high quality teachers
* Trust was frequently referenced as a need between all members of the staff
* Risk taking needs to be recognized as acceptable by administration and teacher leaders
* Fear of the unknown has created a resistance to differentiating instruction
Q4. What effect does school leadership have on teacher learning, sensemaking, and implementation of differentiated instruction?

Leadership

* Administration sends mixed messages about the value and purpose of differentiation
* It is essential to have the principal articulate differentiation as an expectation
* More meaningful feedback is needed from administration
* Two of the teachers indicated that staff feelings about administration influences the staff’s willingness to differentiate instruction
* Principals need to have a clear message about expectations around differentiated instruction
* Administration needs to offer support as well as accountability to differentiate instruction

Once the recurring themes were identified across all of the cases and short descriptors for each concept established, as detailed in Table 5.3, further reflection on the connection of the cross-case themes and concepts to the theoretical framework was done and guided the development of the discussion of the findings that follows.

**Discussion of Findings**

This dissertation acknowledges that current educational reforms, like those outlined in NCLB (2001) and IDEA (2004), require teachers to adjust their methods of instruction to better align with policy ideals that may depart substantially from many teachers’ existing practices (Coburn & Stein, 2006; Cohen & Hill 2001). One of the strategies that have received much attention in recent years, with respect to meeting the new policy demands, is differentiated instruction. Differentiated instruction is a constructivist strategy that is arguably foundational to current reform efforts, making it a necessary instructional strategy to explore and to better understand, with respect to teacher understanding and implementation. To investigate the implementation of differentiated instruction, I join a growing number of educational researchers who argue
that implementation of policy expectations and new instructional approaches are undeniably linked to teacher learning that occurs in both structured and unstructured ways within the organization and which directly affect teachers’ beliefs and practices (Coburn & Stein, 2006; Gallucci, 2003; Lave & Wenger, 1991).

As described throughout this study, the concept of learning is viewed as a multi-dimensional, social activity that occurs as the result of personal interactions in, with, and arising from the socially and culturally structured world (Lave & Wenger, 1991, p. 51). This theory of learning is relevant to this investigation and provides a valuable contrast to more traditional learning theory that more typically identifies the individual as the central and somewhat isolated point of learning, and views knowledge as a more unidimensional thing that is gained through personal discovery or the transmission from an external source. Adopting a more constructivist, sociocultural approach to learning demands the exploration of teacher learning that extends well beyond traditional ideas of out-of-context professional development and places value on exploring the experience of the individual within his or her organizational reality.

The data collection for this study focused on understanding and illuminating the conditions and influences that result in teachers’ learning about, gaining mastery of and successfully implementing differentiated instruction. While it may be interesting to simply examine the concepts and themes that have emerged across the four cases, the real value of this qualitative case study is the ability to go beyond the simple description of the findings connect the findings to the theoretical framework that has guided this study. To make a coherent discussion of the findings and to bridge the data with existing theory, in an effort to better understand the successful implementation of differentiated
instruction, this section will be organized by the three variables that this study has 
explored: the teacher as an individual, including pre-existing knowledge, training, beliefs 
about instruction and their personal connection to policy messages about differentiated 
instruction (Coburn, 2005; Spillane, 2004; Spillane, Reiser & Gomez, 2006; Weick & 
Sutcliffe, 2005), the communities of practice within each school (Coburn, 2005; Coburn 
& Stein, 2006; Honig, 2006; Lave & Wenger, 1991; Spillane, 2004; Spillane, Reiser & 
Gomez, 2006; Weick, 2009; Wenger 1998), and the influence of formal and informal 
leadership on teacher learning (Coburn, 2005; Coburn & Stein, 2006; Honig, 2006; 
Spillane, Reiser & Gomez, 2006; Tomlinson, 2000; Weick, 2009).

**Teacher as Individual**

While it is evident that including the individual as a construct to investigate in this 
study presents some level of complexity, in that an individual’s previous experiences, 
education and beliefs about differentiation cannot be controlled nor examined in the same 
way as other constructs, the inclusion of a full investigation into the teacher as an 
individual is valuable in seeking to understand the influences, experiences and conditions 
that affect the individual teacher’s practice. In discussing the role of the individual in a 
reform effort with literacy, Coburn and Stein (2006) indicate that teachers “understand 
new, often challenging forms of instruction through the lens of their preexisting 
knowledge, beliefs and experiences” (p. 25). Further, in considering changing teacher 
practice, existing research indicates that teachers are likely to gravitate toward 
approaches that are most like their own and focus on surface manifestations of practice, 
rather than enacting deep and sustainable change (Coburn & Stein, 2006; Spillane, 2000). 
Similarly, implementation studies that have employed a sociocultural approach, suggest
that even when individual teachers believe they are making major changes in practice, the actual change is relatively minimal (Cohen, 1990; Ball, 1990; Gallucci, 2003). The sustained and deep change in practice is unquestionably multifaceted and demands that the investigation begin with the individual. This section will include a discussion about the educational experiences, formal training and personal beliefs about differentiated instruction as evidenced in each of the cases.

**Educational Experiences**

During the initial interviews for this study, when the principle investigator inquired with each of the cases about their experiences as middle school students, it was discovered that all four of the cases received services as identified “high achieving” or “talented and gifted” students. While there was in no way an intention of purposefully selecting individuals who received such services as students, nor did the author hypothesize that this outcome might happen, it did occur and presents an interesting and compelling finding, especially as at least for these cases, there is a link to current classroom practices.

When asked to further describe the benefit of receiving supports as a “talented and gifted” student, each of the participating teachers shared very similar perspectives like “I always liked school and always enjoyed the challenge”, “being challenged was important to me”, “I valued being grouped with high achieving students” and “I liked having alternate assignments instead of busy work”. Additionally, the cases often included a recollection of their favorite teachers and consistently identified the “best” teachers as the ones that knew how to appropriately challenge them or “pushed me even when I would whine”. The recurring notion that the “best” teachers were able to balance
maintaining a personal connection with students, while being able to challenge all students was not only common among the cases, but it is also consistent with current research about teacher effectiveness (e.g., Hattie, 2009, p. 109). To attempt to make sense of this finding and to understand the potential influence on current practices, a few questions emerged: Are teachers who were identified as “talented and gifted” students more capable of differentiating instruction based on innate qualities like intelligence? And, are teachers who were identified as “talented and gifted” students more likely to differentiate because of the type of instruction and educational opportunities that were received in a specialized program?

Do teachers who were identified as “talented and gifted” students differentiate instruction because of innate qualities like intelligence? While this is a difficult question to answer, for many reasons, it is fair to say that the number of cases included in this study would not support making such a generalized claim. However, because this study is interested in parsing out the influences that lead to teachers gaining mastery of differentiated instruction, the question seems valid. As described by Tomlinson (2008) differentiation does make sense and is a sound instructional approach for all students, but it is complex and difficult to implement (p. 3). So, might the identified complexity of implementing differentiated instruction require a higher than average intelligence to effectively implement? While there is nothing in the literature to indicate that only “talented and gifted” students will grow up to be high performing, differentiating teachers, studies like the one conducted by Whitehurst (2002) to explore the characteristics of effective teachers, as measured by student assessment data, indicate that “the most important influence on individual differences in teacher effectiveness is the
teachers’ general cognitive ability, followed by experience and content knowledge” (p. 50). While it would be difficult and disheartening to say that only the “talented and gifted” are capable of becoming experts with differentiated instruction, it might be fair to claim that differentiated instruction is complex and requires enough cognitive ability to master the concept in addition to having mastery of one’s own content. Additionally, effective teaching appears to have many dimensions, beyond just intelligence, including the ability to build relationships, collaborate with others and clearly articulate goals and expectations for students (Hattie, 2009; Tomlinson, 2008).

The other question that emerged from this finding, addresses the notion that teachers teach in certain ways and utilize methods that are consistent with what they experienced as students. In other words, the experiences that teachers had while they were students in the classroom directly influence their thinking about and understanding of the role of teaching and the process of learning. Scholars who have drawn upon cognitive learning theory have made the argument that teachers understand new methods and approaches to learning through the “lens of their preexisting knowledge, beliefs, and experiences” (Coburn & Stein, 2006, p. 25). Zeichner and Tabachnick (1981) extend this line of thinking by arguing that:

[Teacher socialization occurs through the internalization (largely unconscious) of teaching models during the thousands of hours prospective teachers spend as students in close contact with teachers (apprenticeship and observation). The activation of this latent culture with the onset of school experience is seen as the major influence in shaping one’s conceptions of the teaching role and the role of]
performance. Formal training in pedagogy at the university level is seen as playing little part in altering earlier and traditional teaching perspectives. (p. 8)

As previously mentioned, all of the cases that were selected for this study acknowledged that they had received supplementary services as identified “talented and gifted” students. And, differentiation has long been a mainstay instructional approach for “advanced” or “exceptional” students (Tomlinson et al, 1997, p. 269). In Chapter 1 of this study, the Marland Report (1972) was identified as the first official document released at the federal level that specifically defined and identified differentiated instruction as a teaching strategy that has been and should be implemented to increase learning opportunities for high achieving students, especially students from underserved student populations. While differentiation continues to receive attention as a viable instructional approach to meet the needs of all students, it is not wholly a new concept and has been utilized in varying degrees for decades, especially in programs designed for the “advanced” learner and more recently in classrooms that include struggling learners in the general education context.

Combining the history of differentiated instruction and its role with classrooms designed to meet the needs of “talented and gifted learners”, with findings from studies that indicate the persistent and pervasive influence of personal educational experience on current practice, it is not completely surprising to find that the expert differentiators for this study were also students who received challenging and differentiated learning opportunities as students. Furthermore, when describing their experiences as students, the cases did describe exposure to differentiated practices and did identify that their experiences as students does influence current practice. Calvin stated, “I do remember
and value teachers who gave us different ways of looking at the material or who used mnemonic devices and things like that to help us remember” (personal communication, November 11, 2010) and Annette commented, “my experience [as a high achieving student] influences my focus on grouping and needing to understand my students and their needs” (personal communication, September, 7, 2010). Like their colleagues, Calvin and Annette articulated the connection between their experiences as students and their desire to create similar opportunities for students in their classrooms. This finding seems to further underscore, not only the influence of an individual’s history on current practice but also the absolute necessity of guaranteeing high quality instruction that is both rigorous and relevant in all classrooms. Having high quality teachers who are committed to implementing research-based practices, like differentiated instruction, not only provides the needed support and challenge for each student, but also perpetuates the kind of practice that should be occurring in all classrooms.

**Beliefs and Motivations Related to Differentiation**

While examining how teachers have come to know about and have gained mastery of differentiated instruction, it is imperative to consider how the selected cases have approached differentiation and how they feel about its value and purpose as an instructional strategy, which certainly is an extension of their exposure to it as a student. Existing implementation research indicates that each teacher approaches policy expectations as well as building-level expectations differently (Cohen & Ball, 1990, Gallucci, 2003). Additionally, the level of openness that teachers have to a new or different instructional strategy, regardless of whether it is mandated or formally legislated, is heavily influenced by many factors including the teacher’s knowledge,
beliefs and assumptions about teaching and learning (Gallucci, 2003). We also know that teachers are more likely to invest and gravitate toward approaches that are congruent with their prior practices (Coburn, 2004; Coburn & Stein, 2006). Lave and Wagner (1991) indicate that the active participation of both “absorbing and being absorbed in the culture of practice” is required to truly learn about and implement a new strategy (p. 95), a process that is clearly more encompassing and requires more personal investment than simply gaining a new skill. Clearly, the degree that individuals invest in a classroom practice, like differentiated instruction, is related to ones beliefs and the perceived value of the innovation on the teacher’s performance. Weick (2009) makes the claim that “belief and faith are prerequisites of organizing and sensemaking” (p. 37). In this section, the reported beliefs about differentiation and the connection of those beliefs to learning and implementation will be explored.

In describing how individuals make sense of and create action with a new practice, Weick (2009) states that “when people develop the capacity to act on something, then they can afford to see it” (p. 32). In this study, the expert cases were asked to share their beliefs about differentiated instruction and how they “see it” as an instructional strategy, in an effort to gain insight into how and why they have become experts. In all four cases, the teachers reported that differentiation is “beneficial to all students”, “valuable to kids” and “something that good teachers intuitively do”. To some extent, it is expected that the expert differentiators would make the statement that differentiation is “beneficial” and “valuable” since they are currently implementing the practice. Further, cognitive dissonance theory suggests that beliefs and behaviors must be in concert (Festinger, 1957), but this study is designed to go beyond simple reports
from teachers and to explore the possible connection of beliefs about this instructional approach to actual classroom practice. The emergent themes from this line of inquiry included the notion that differentiated instruction is not just a high quality instructional strategy, or a stated expectation within the respective schools or districts, but that it is rooted, to varying degrees, in personal beliefs about teaching and instruction.

In all four cases, each of the teachers cited that there is absolutely a value in differentiating instruction and indicated that giving students what they need is an essential part of their professional responsibilities. In this sense, for the cases, differentiated instruction extends beyond being a simple instructional strategy and is identified as a moral obligation. They further expressed frustration with colleagues who were unwilling to share their perspective, as well as with administrators who fail to hold other teachers accountable. In all cases, there was also an expressed belief that only teachers who are willing to “take risks with instruction” and learn through “trial and error” will be able to develop new ways to meet the needs of all students. In fact there was consistently an impassioned statement made by each of the cases about not being patient with or having room for teachers who have a “one size fits all” mentality to instruction.

One aspect of the reported beliefs about differentiated instruction that did vary from case to case was around the concept of motivation or driving force, other than their beliefs or values, to commit to differentiating instruction as the core approach to teaching. A recurring theme with the cases, included sharing what brought them to differentiate and why they continue to engage in the practice even though it is difficult and not everyone chooses to enact it in their classrooms. For instance, Calvin describes
differentiating as being a philosophy, “a new way of thinking” that he has ascribed to. Similar to Bonnie, he offers that differentiating is a new way of thinking about teaching and learning that starts with the unwavering belief that “all students can learn”. When challenged to respond to the question about the reason that he chooses to differentiate, Calvin offered that differentiating instruction is not really a choice, it is more of a moral or ethical obligation of the teacher. When describing his role as a teacher, Calvin went as far as to express that he wants to “make a mark” with students and that he sees his role as a teacher as one who can “create social change” and to “make a difference”. While there are external factors that influence Calvin and his desire to differentiate, his motivation is very much a core belief, a fundamental part of who he is as a person and as a professional.

In contrast, Annette described the choice to differentiate as a decision made out of necessity and arguably, out of compliance. She made repeated comments that the administration “preaches differentiation” and made it clear that differentiating is an expectation, but sees it as “one of those terms, like RtI, that is tossed around and everyone says they do it, but we all know that most don’t” (personal communication, September, 7, 2010). To Annette, differentiating is both valued and seen as a way to “meet students at their level”, while also being a necessary compliance measure to acquiesce to the repeated messages from administration. Annette is passionate about differentiation and was observably very effective in the classroom, but her sense of urgency to implement differentiation appears to be external and driven by messages about expectations and compliance from administration.
Taking a contrasting perspective, Bonnie commented that she differentiates and feels like differentiating instruction is “just how [she] thinks”. To Bonnie, differentiation was described as an innate quality, or “something that good teachers do intuitively”. Throughout the interviews, observation and journaling, Bonnie frequently responded with comments like “I don’t know [how or why], it’s just something I do” (personal communication, October 7, 2010). When asked about her thoughts regarding the connection of differentiation to current reform policies, Bonnie stated, “I believe you can legislate differentiation, doesn’t mean everyone is going to do it” (personal communication, October 7, 2010). Bonnie’s motivation to differentiate appears to be more about aligning how she thinks about learning and how she conceptualizes the role of teachers and the learning process with her actions in the classroom. Bonnie’s motivation is authentically internal and is linked closely to her experiences as a student and to her beliefs about the role of teachers.

A slightly different variation behind the motivation to differentiate is Carol’s expressed commitment to the instructional strategy. Carol describes differentiating as an essential component of her position as a teacher. Throughout the data collection, Carol was ardently focused on the notion of guaranteeing a strong curriculum that clearly addressed the needs of each of her students, in an effort to meet the Adequate Yearly Progress goal and having all students show measurable growth. Taking more of a scientific or diagnostic approach, Carol stated that when she thinks about differentiation, “the question isn’t what do students need, it’s about what does this student need” (personal communication, October 12, 2010). Throughout the interviews and journaling, Carol repeatedly described differentiation and the need to differentiate in terms of having
all students demonstrate measurable growth. Clearly, Carol’s motivation and beliefs about differentiation are very much related to her desire to be a sound practitioner and to meet her personal and school-wide goals, which she believes is measured by having all of her students meet AYP.

While all four cases are driven to differentiate and are truly very good at differentiating, the differences in motivation are compelling because they provide an insight into one of the causes that lead to teachers taking the initial step of implementing differentiated instruction. Regardless of the underlying motivation, all of the participating teachers believe that having a positive rapport with student is essential and in all four cases, they have each felt a sense of urgency to learn about and implement differentiation, in a genuine effort to meet the needs of individual students. And, in all of the cases, there is a core belief that each student can learn and that each student deserves to have their individual needs identified and addressed. The common view across all cases, is the belief that implementing differentiated instruction is the most “realistic” and “valuable” way of achieving the ambitious but worthwhile goal of guaranteeing success for all students.

**Formal Training**

While the argument has been made that previous experiences as students may influence the professional practice of teachers (Zeichner & Tabachnick, 1981), which might also influence human resource policy in terms of desired qualities of teachers to hire, this study is more interested in uncovering how teachers have gained mastery of differentiated instruction as this understanding is more likely to have a larger reach and potentially some impact on current teachers if applied to professional development.
opportunities. Focusing on formal and informal learning opportunities, this section provides a discussion, based on collected data, about the formal training and potential influences of those trainings on current practice.

When gathering data on each of the cases, the author discovered that, though not all of the cases have completed a degree beyond the Bachelor’s degree, all but one of the cases indicated that they are within a year of completing a graduate level program. The advanced degrees that are held, or that are currently being pursued by the cases, are in the field of education and were referenced as supports in learning about differentiated instruction. However, when included in the discussion about formal training with differentiation and asked to provide a link between university work and current practices, all of the cases indicated that the training received during coursework did not go much beyond a basic introduction. For example, Bonnie stated, “in my college classes, I had some limited experience with tiered lessons, but I wouldn’t say that we never went in depth” (personal communication, October 7, 2010). Similarly, Carol shared, “differentiated instruction was touched on briefly during my undergraduate classes, but most of my learning has come from reading journals and books” (personal communication, October 12, 2010). In all cases there was mention of an introduction or some coursework during the college experience, but much like the Zeichner & Tabachnick (1981) study suggests, there appears to be very little perceived link between coursework in college and current practice.

In addition to exploring the influence of formal training through a university degree program, questions were also used to probe into formal training or professional development on how to enact differentiated instruction. In all but one case, Annette, the
selected teachers shared that they had received some degree of training with
differentiation once they entered the field of teaching. Bonnie shared that “I had a
training with how to build rubrics, which is useful, but I haven’t really had formal classes
or training with differentiation” (personal communication, October 7, 2010). In a slight
contrast, both Carol and Calvin, who work at Casper Middle School, shared that they
attended a multiple day training hosted by a neighboring district. From both teachers,
there was a report that the training focused on “specific strategies that were easy to use in
the classroom” and that those strategies are still in use in each of their classrooms. While
it seems evident that trainings that provide specific strategies that are easy to use are
reportedly most beneficial, there does not appear to be compelling evidence to support
the idea that formalized trainings have an influence on teacher learning and the
implementation of differentiated instruction.

This study has included the exploration of the teacher as an individual, including
beliefs, motivations, educational experiences and formal training with differentiation.
The result of this examination identified that expert teachers have made a conscious
decision to differentiate their instruction because they see it as a means of meeting
personal and professional goals of meeting the needs of each student. While the
motivation to differentiate includes both internal desire as well as external
encouragement by the school administration, all of the expert teachers had a balance of
implementing differentiated instruction as both a personal and a compliance initiative.
Additionally, formal training and educational opportunities that focused on differentiation
failed to have a reported impact on teacher practice, unless the learning opportunity was
clear and easily transferrable into practice. Surprisingly, the expert teachers described
personal experiences as students as well as choosing to learn about differentiation on their own, as most influential on changing practice and supporting the implementation of differentiated instruction in their classroom.

**Communities of Practice**

Alongside the exploration of the influences on individual teacher learning and ultimately the implementation of differentiated instruction, this study incorporates the view from previous research that communities of practice (Coburn & Stein, 2006; Gallucci, 2003; Lave & Wenger, 1991; Wenger 1998) play a significant role in teacher learning and the adoption of new practices in the classroom. The concept of communities of practice, which is one facet of the social learning theory developed by Lave and Wenger (1991), views learning as a “situated activity” in which practitioners participate fully in pursuit of making sense of and negotiating meaning for the world in which they work and live (Lave & Wenger, 1991, p. 29). In this sense, communities of practice are not restricted to formalized structures or prescribed protocols for professional dialogue, rather communities of practice are conceptualized as “any place individuals opt into relationships with one another. Often, but not always communities of practice develop as a network of informal relationships that are not congruent with formal organizational structures” (Coburn, 2001; Coburn & Stein 2006; Wenger 1998). Coburn and Stein (2006) further describe communities of practice as being “neither intrinsically beneficial nor intrinsically harmful. Rather they constitute the places in which organizational and individual learning unfolds” (p. 28). Within the selected middle schools, this study examined both the structured “team meetings” that constitute a type of formal
professional learning communities in many schools, as well as the unstructured or informal meetings that constitute informal or problem-based as communities of practice.

Beyond the structure of each of the communities of practice, it is essential to explore the membership of the “group of individuals who, through the pursuit of a joint enterprise, have developed shared practices, historical and social resources, and common perspectives” (Coburn & Stein, 2006, p. 28). Each of the selected cases provided information about the communities of practice that they participate in and offered insight into the structure and goals of each of the communities. In similar studies that utilize social learning theories to explore teacher learning (Coburn, 2001; Coburn & Stein, 2006; Gallucci, 2003; Honig, 2006; Lave and Wenger, 1991; Spillane, 2000), professional communities are considered a crucial site for implementation and provide a valuable context to explore in seeking to understand how teachers learn and adjust practices based on external influences (Coburn & Stein, 2006; Gallucci, 2003). Gallucci (2003) extends this line of thinking by arguing that communities of practice mediate teachers’ responses to reform policies and that the implementation “problem” in education reform is really about professional learning (p. 2).

Taking the communities of practice perspective, learning is conceptualized as a “situated” or “nested” activity that extends beyond the mind of the individual and requires the participation of others, a community, to negotiate meaning and to ultimately transform practice in response to changing conditions in their environment, like state, district or building level mandates. Through this process, community members establish new ways to interact, or create new forms of mutual engagement; they fine tune their joint enterprise and further develop the shared repertoire of practice (Coburn & Stein,
Collectively, this process embodies the meaning making process that results in teacher learning and represents the core of each teacher’s practice.

To further understand the implementation of differentiated instruction, this study has explored the influences on teacher learning from the perspective of the individual and each of their prior experiences, beliefs and formal training. In this section, teacher learning and implementation of differentiated instruction will be explored through an investigation of the communities of practice that exist within the context of the selected, high performing schools. Using the construct, communities of practice (Lave & Wenger, 1991), this section will describe the recurring themes and ideas that appear to influence and support teacher learning and the sustained implementation of differentiated instruction, among the selected cases for this study. To coherently connect the collected data with the current practices of our differentiating experts as well as their engagement within their own communities of practice, the focus of this section will be on exploring the possible influences on teacher learning through mutual engagement, joint enterprise, and shared repertoires of practice (Coburn & Stein, 2006, p. 26).

**Mutual Engagement**

The concept of mutual engagement, within a community of practice, includes all activities and interactions of individuals that lead to more completely understanding or experiencing their professional world. Coburn and Stein (2006) include activities like collaborative lesson planning, peer observation, and analyzing video of each other’s classrooms (p. 28) as activities that represent a mutual engagement of members within a professional community. For this study, data was intentionally collected to gain insight
into how communities of practice were formed in each school, capturing who was involved in the conversations and activities, how often the communities met, and the types of activities that were engaged in during the meetings. Attention was also given to identifying whether the communities were formally or informally structured and how each community of practice supported the implementation of differentiated instruction.

When each of the participating cases was asked to describe the opportunities that they have to meet with others and to discuss instruction, specifically differentiation, all four of the expert cases reported that they have established, weekly “team meetings”. The team meetings were described as times that are designed to be protected opportunities to support discussions about student concerns and collaboration about instruction. All four of the cases indicated that having designated teams, an organizational piece that was identified as an important part of the middle school concept, was beneficial and increased communication among teachers. The team time that was described by the cases, is a formally structured, recurring event that all teachers are expected to participate in throughout each week. Annette shared, “we have time set aside, team meetings, for discussing differentiation and for collaboration, for everything” (personal communication, September 7, 2010). Similarly, Bonnie shared that her school also has weekly team meetings in addition to meeting “once a month in PLCs. It is broken into time with our department and then time with our passion groups. We collaborate all of the time by team and by department” (personal communication, October 7, 2010). Calvin also commented that “the team environment in middle schools really builds a culture that leads to differentiation” (personal communication, November 11, 2010).
In all of the schools, the cases consistently reported having a structured, scheduled time to meet by team and by department, and indicated that when that time was protected and not interrupted, it is useful and supports collaboration. Membership in these meetings were relatively consistent with slight variation around which specialists, like the special education teacher, the talented and gifted coordinator or grade level counselor, regularly attended. In all descriptions of the team meetings, the core academic team, including language arts, math, science and social studies, consistently attended, with participation from administration also being reported on a relatively regular basis.

Based on the findings, team meetings appear to focus most on troubleshooting student issues and concerns with some level of planning around logistics about items like upcoming events and major projects. While all of the participants identified “team meetings” as a useful time to meet and to problem solve student issues, this time was also consistently described as being “interrupted”, “derailed by running kids down” and used for “sharing information” about upcoming events. When asked about the focus of the meetings, the cases responded similarly, sharing that there is usually an agenda but the time is quickly consumed by the managerial, logistic aspects of their jobs rather than focusing on curriculum and instruction.

When asked who they go to for support in differentiating instruction, each of the cases had relatively different answers. However, none of the cases answered that they believe that the established team meetings are very helpful in supporting their instructional practices, nor did they consistently identify their academic team members as the most influential or supportive staff members, with respect to learning to differentiate. Answers about existing supports did include: the librarian and department colleagues
Annette, personal communication, September 7, 2010), the talented and gifted coordinator and RtI coordinator (Bonnie, personal communication, October 7, 2010), talented and gifted coordinator and special education teachers (Carol, personal communication, October 12, 2010), instructional coach, colleagues and principal (Calvin, personal communication, November 11, 2010). When challenged to share why these individuals were selected as supports, the answers consistently included the notion of availability to meet, alignment of philosophies around instruction and the willingness to meet informally. Essentially, the members in these informally structured communities of practice shared a common belief and synergy, or mutual engagement about instructional practices.

In most cases, meetings among members in these microcommunities occurred daily, often during lunches or during time before or after school. In its purist sense, these identified groupings of individual professionals who make a conscious effort to meet and to discuss instruction and approaches to improve how they differentiate, represent high functioning, yet informal professional communities. These microcommunities, though they exist outside of the structured communities like team and department meetings, represent the locus of learning within the selected schools as each individual teacher endeavors to negotiate meaning about how differentiated instruction should look, feel, and sound like within the classroom. One of the compelling findings from the description of these informal communities of practice is that some of the members of the informal communities are individuals who are intended to provide support to all staff members, like the talented and gifted coordinators. Including individuals that have accepted membership within multiple communities of practice increases the likelihood of
positive and effective overlapping across other communities of practice throughout the school. The notion of “overlapping” and members that can “bridge” (Coburn & Stein, 2006; Gallucci, 2003) different communities is valuable to diffusing a complex instructional strategy like differentiated instruction throughout a school. Based on the data collected, it appears that there is benefit to having formalized communities of practice that are designed to support teachers, however the informal communities of practice that are formed by individuals choosing to join and to discuss instruction, appear to be of more value in supporting teacher learning. The informal communities of practice that form within schools were identified as most useful because all members within the group joined for similar reasons and participated because it satisfied a need that couldn’t be met elsewhere.

In addition to the structure, membership, and focus of each of the communities of practice within the selected schools, the collected data indicates that there is benefit and a perceived need to further empower teacher leaders to model instructional strategies and to provide colleagues opportunities to give frequent and targeted feedback about observed instructional practices. Repeatedly, the interviewed teachers indicated that they desired having lead teachers who are considered to be expert differentiating teachers, to model and share best practices with the rest of the staff. Annette describes this idea perfectly when she said, “what would be helpful is giving us time to talk, to learn from each other. You learn best from a lot of your colleagues through talking or observing or just sharing ideas” (personal communication, September 7, 2010). Stated in another way, “learning is occurring in practice, whether we recognize it to be or not” (Gallucci, 2003, p. 19). The expert differentiators shared the belief and had similar experiences around learning
from other colleagues and benefiting from mentor teachers who provided specific feedback about classroom instruction.

This study moves beyond traditional conceptualizations of learning that often reduce it to an act, a unidimensional activity of the transmission and receiving information, without much attention to the context or influence of the learner or learning environment. Examining learning as a social activity that requires the interaction, negotiation, and construction of meaning by its members, provides the opportunity to explore learning as a multidimensional process that requires full participation by all members within each community. As Gallucci (2003) states, practitioners working together toward reform goals have been described as apprenticing themselves to one another in their efforts (p. 19). In fact, the notion of apprenticeship is foundational to Lave and Wenger’s (1991) situated learning theory and the view that learning occurs in practice, or in the act of doing (p. 31), not in an isolated training or workshop. What the cases identified as beneficial, by describing having meeting times with colleagues, opportunities to see models of differentiation and having the opportunity to provide and receive feedback, embodies the sociocultural reality of learning. As Lave and Wenger (1991) have argued, this study also demonstrates that the mutual engagement of members within a community is critical to the collective learning of the school as well as the construction of knowledge about teaching and learning for each teacher.

**Joint Enterprise**

Within each community of practice, whether formally or informally structured, there is a common or shared definition about the purpose of the community, as negotiated by each of its members (Coburn & Stein, 2006, p. 28). Individuals join a community,
especially in the case of choosing an informal community, because they share commonalities like beliefs about instruction or specific classroom practices and want to collaborate with others who share those qualities. For this study, participants were asked why they differentiate instruction and were challenged to identify the forces that drive their practice. As described in the section about individual beliefs, each of the participants described a different reason for differentiating and either explicitly stated or implied the motivation for working within their respective communities of practice to develop their understanding and actions around differentiated instruction.

In all cases, when asked about the importance of differentiating instruction, reports were given about each of their building principals identifying differentiation as a priority. For instance, Carol stated, “I started incorporating that [differentiated instruction] into my classroom because it was so expected that you did it as part of what a good teacher does in this building (personal communication, October 12, 2010) and Annette stated, “the thing is they [administration] push it, especially now with RtI and tier 1 and tier 2 interventions” (personal communication, September 7, 2010). While it is evident that external forces like an expectation from administration or a mandate from the state or district can influence an individual’s decision to consider implementing a new practice, or may be the initial reason for an individual to join a community of practice, mandates and expectations alone are not sufficient to change teacher practice. For teacher learning to occur, followed by a genuine change in practice, there has to be a balance between the participation of teachers in negotiating meaning around the expectation and the reification of messages that are transmitted through policy. Stated another way, learning occurs at the intersection of participation and reification (Gallucci,
2003, p. 20). Coburn and Stein (2006) describe this interrelationship of participation of the individual and reification, or the process of giving form to experience by producing objects that congeal the experience into “thingness”, as being essential if the goal is to have greater alignment between policy and practice (p. 31).

When this concept is applied to differentiated instruction, which is argued to be a policy expectation in current reform legislation (reification) that has emerged out of expectations established by policymakers, participants must engage in a joint negotiation of meaning (participation) in order to have a common understanding and a coordinated perspective of the instructional strategy across communities. Without the active participation by individual teachers who play a role in making sense of and negotiating meaning for differentiated instruction as a practice, the policy message has no real meaning beyond the written policy. Coburn and Stein (2006) describe this interaction by stating, “it is the interplay of reification and participation that creates new possibilities for the negotiation of meaning and new opportunities for communities to adjust their participation, renegotiate their enterprise, and continue to develop their shared repertoire over time” (p. 30). The balance of both mandating expectations and the full participation by teachers in negotiating meaning of the mandate is essential in facilitating teacher learning and ultimately a change in practice.

**Shared Repertoire of Practice**

When asked to provide a personal definition of differentiated instruction, all four of the cases, from three different schools, offered very similar definitions. All of the definitions included a comment about “giving each student what they need”, suggested that using collected, formative data to gauge need is essential and offered that
differentiated instruction is founded on knowing and having a relationship with each of the students. Throughout this paper, differentiation has been described as complex and multifaceted, as well as being prone to misinterpretation. However, when the experts from different contexts with relatively varied backgrounds defined the concept, the definitions were very similar. With a concept like differentiated instruction, that the author argues is inextricably woven into the fabric of current reform legislation, it appears that there are opportunities for overlapping and bridging from communities that extend beyond the context of the school. For example, both Carol and Calvin shared that they had experienced a useful training about differentiated instruction, in a neighboring district. It is possible, with such wide-sweeping legislation like NCLB and IDEA that willing participants are hearing about and working within their schools to make sense of and implement differentiation. And, based on the narratives that describe the observation for each case, it seems that the strategies employed to differentiate are also quite similar.

When examining learning utilizing social learning theory, this common language and aspects of practice are referred to as a shared repertoire of practice. A shared repertoire of practice frames how members within the community talk about and think about their content, students and colleagues.

A particularly compelling example of a shared concept, which extended across all cases, is the notion that while differentiation is essential to the success of the teacher and his or her students, it is “difficult”, “takes a lot of time” and requires more from teachers than teaching in a “one size fits all” approach. With respect to individual sensemaking within an organization, Weick (2009) states that “belief and faith are prerequisites of organizing and sensemaking” (p. 37). All four cases used language that described
differentiated instruction as difficult to implement and in all cases, included comments like “I think differentiating is harder than not. It is easier to teach one way, to teach one size fits all, which is why not everyone does it” (Bonnie, personal communication, October 7, 2010). Among the selected expert differentiators, there is not only a shared repertoire of practice with respect to implementation of the strategy, but also around the perception that “good teachers differentiate” and not all teachers choose to differentiate their instruction because it is difficult and takes more time.

**Leadership Influences**

Within any organization, leadership can come from a variety of its members and can influence the course of any initiative. However, for this study leadership is defined as formally recognized school leaders like school administrators. The goal of including school leaders is to gain insight into the potential influence of leadership practices on the language and practices utilized in each classroom. To investigate possible influences of school leadership on teacher learning, a series of questions were asked of the cases to gain a complete perspective. The collected data supports the notion that principals have an influence on teacher learning and on the implementation of instructional practices through communicating expectations, supporting a culture that is conducive to collaboration, holding teachers accountable and creating opportunities for all members of the school to collaborate.

**Communicating Expectations**

When asked to describe building leadership and its perceived influence on the implementation of differentiated instruction, all cases started their descriptions by indicating that their school’s principals have made differentiation an expectation in their
respective schools. For instance, Carol shared that “clear building expectations from administration made it clear that [differentiated instruction] is what we do for kids” (personal communication, October 12, 2010). Similarly, Calvin stated “I think when building leadership makes [differentiation] a goal and includes it in conversations at all meetings and things that you do, it shows the commitment that they have to the idea of differentiating” (personal communication, November 11, 2010). By clearly articulating that differentiated instruction should be implemented in all classrooms, the principals of the selected schools not only made the expectation known to all staff members, they also created a common language about instruction at that school. Establishing differentiated instruction as the required instructional practice provides the staff with direction about instruction and provides a school-wide shared repertoire of practice. By exercising the authority to define the desired practice, the principals further legitimize the need for staff to make sense of differentiated instruction, and call upon their respective staffs to engage in dialogue about the practice and its implementation.

In a study to investigate the influence of elementary school principals on the implementation of literacy programs, Coburn (2005) argues that “principals influence teacher sensemaking by shaping access to policy ideas, participating in the social process of meaning making, and creating substantially different conditions for teacher learning” (p. 477). By stating the expectation that differentiated instruction is a school-wide focus, the respective principals have legitimized the practice and have either explicitly stated or implicitly stated the need for individuals to participate in negotiating meaning and implementing as practice in all classrooms. Additionally, as the formal leaders of the school, the principals are perceived as supports, or “brokers” who have membership in
multiple communities of practice. Having membership that extends across communities enables principals to cross social and cultural boundaries between microcommunities within the school to support and facilitate developing common language and thinking about differentiated instruction. In this sense, the principals are able to “bridge” communities and create useful overlapping messages across the many existing informal communities of practice (Wenger, 1998). By having access to communities within the building as well as beyond the schools, “school leaders interpret and adapt policy in ways that are influenced by their preexisting understandings and their overlapping of social contexts inside and outside of school” (Coburn, 2005, p. 479). The influence of leadership, through articulating the expectation of differentiating practice as well as by participating in the negotiation of its meaning within the school, is perceived by the cases as being critical to the success of implementation.

A Supportive Culture

In addition to enjoying and valuing the opportunity to work with others in formal and informal communities of practice, the expert differentiators shared that having a school culture that is supportive of teachers collaborating, taking risks and learning through “trial and error” is essential to their learning. When asked to be more specific about what a supportive culture looks like, each of the cases connected the idea of having a school culture that encourages differentiation, with feeling like they had been given permission to take risks, by the school principal. Annette shared “I need to know that they [administrators] trust me and won’t ding me for trying something out and it not working” (personal communication, September 7, 2010). Bonnie expressed that “since this principal has been here, more attention has been given to low kids and high kids.
Having his support has been just awesome in being able to differentiate” (personal communication, October 7, 2010).

For the experts in this study, having a culture that supports and encourages risk taking was reported as valuable by the participating teachers. In all four cases, the teachers described learning how to differentiate through “trial and error”. In essence, the teachers indicated that they need to be able to fearlessly negotiate meaning through participation in the practice of differentiated instruction. Throughout all phases of the data collection, the words “trust”, “trial and error”, and “risk taking” were commonly used to describe what a supportive culture looks like and how it feels. Interestingly, Tomlinson, Brimijoin and Narvaez (2008) attend to the issue of respecting the individual, including student and teacher, and building community as fundamental elements of differentiating instruction (p. 3). While it is evident that a principal cannot solely develop a supportive culture for all teachers, he or she does play a role in providing structures that value individuals, reward risk taking and encourage teachers to share successes and failures, in an effort to facilitate learning.

When describing learning, Lave and Wenger (1991) emphasize the need to focus on the learner as a “whole person” that is situated within the reality of their context. Considering individual teachers as members of a sociocultural community, “implies not only a relation to specific activities, but a relation to social communities, it implies becoming a full participant, a member, a kind of person” (Lave & Wenger, 1991, p. 53). From this perspective, a school’s culture and the individual teacher are not two different variables that are at odds with each other. Rather, the culture and the individual are inextricably intertwined in the process of negotiating meaning for classroom practices. A
supportive culture, then, is one that has a common purpose or mission, but that is flexible enough for teachers to work across formal boundaries like grade level and department teams. A supportive culture is one that is built on the belief that learning is not the result of a simple transmission of information; rather it is an ongoing process of transformation and negotiation among the members within the organization.

**Accountability**

It is the intent of this study to explore conditions within schools that lead to teachers learning about and gaining mastery of differentiated instruction. This approach to examining implementation is founded on the premise that the organizational context and patterns of interaction within the organization shape how teachers learn (Coburn, 2001; McLaughlin & Talbert, 2001; Spillane, 1999). Over the last nine months, the four cases have provided a vast amount of information about the perceived influences about the implementation of differentiated instruction. However, of all of the themes and ideas that emerged, the issue of accountability was the one concept that seemed to get the cases most impassioned. While it is not completely surprising to find that all of the cases shared concern about principals not holding all teachers accountable, it is a bit perplexing as the intent of this study is to discover the supports and influences that lead to teacher learning. For this reason, much time has been dedicated to thinking about accountability and the role that it plays and is perceived to play in implementing a complex instructional strategy. As Gallucci (2003) states:

policies cannot mandate what or how we learn. They cannot mandate that teachers all work together in strong communities of practice or that they develop
openness to new ideas. They likely cannot expect that systems or people will change in particular ways because of policy demands. (p. 19)

This study is built on the notion that mandates and policies alone are not likely to drive a change in practice, in isolation, and that changes in practice are the result of teacher learning. The concept of accountability is perceived to play a role in teacher learning and will be addressed in this section.

When the cases were asked to describe the supports and obstacles that they believe lead to the successful implementation of differentiated instruction, the idea of accountability, in terms of principals enforcing expectations with teachers, was one of the most recurring themes. For example, Annette stated, “most teachers aren’t doing it [differentiating] but they say that they do for evaluations and because they know that it is an expectation. More accountability is needed to really have people do it” (personal communication, August 26, 2010). Similarly, Carol shared, “I think leadership can effect teacher’s choosing to do it [differentiate] in a positive or a negative way. Part of it is expectation, but part of it is accountability with the expectation” (personal communication, October 12, 2010). These two representative statements capture the idea that the cases think that more accountability will lead to more teachers participating in a community of practice that prioritizes differentiated instruction. During the interviews and journaling about this topic, the underlying message about accountability appeared to embody a couple of ideas. First, the participating teachers reported they felt like having colleagues who blatantly choose not to implement differentiated instruction, devalued the school-wide effort to differentiate and ultimately made committing to differentiating more difficult. Second, the cases indicated that it is difficult to commit to differentiating,
knowing that it takes more time and is difficult to do, if they are the only ones committing to putting in the extra time and effort. Carol stated, “I think it is harder to stick to it, to keep trying to differentiate when you know that some just choose not to” (personal communication, October 12, 2010). Each of the four cases clearly believe that differentiating instruction is the right thing to do for each of their students, but they also feel that having a common, school-wide commitment would make the conversation and transformation of practice easier, especially on a larger scale.

Gallucci (2003) addresses the concept of accountability within the school, by stating “Teachers who are empowered to participate in reform-minded activities might infuse their community of practice with such spirit. Practitioners working together toward reform goals have been described as apprenticing themselves to one another in their efforts to respond to reform” (p. 19). The notion of individuals “apprenticing”, Gallucci argues, leads to the “accountability of practice”, or a level of accountability that members within a community of practice have for each other. This kind of accountability is based less on waging consequences from school administration for individuals who choose not to participate, and puts the onus of responsibility and accountability on the members of the community of practice. This level of accountability, which is more embedded within the context of the workplace, is arguably more aligned with the concept of teacher learning that is a situated, sociocultural activity. Whether accountability is perceived as a role that must be played by the principal, or whether it is perceived to be part of the social process of learning, each of the cases described the need for some kind of substantial push to get all teachers to commit to differentiation.
In addition to the idea that there is a need, within each of the schools, to hold teachers accountable, the cases reported that teachers implement differentiated instruction at different levels. During the data collection, terms like “deep” and “true” differentiation were used to contrast the idea that some teachers implement at a “shallow” or “superficial” level. When asked to elaborate on the different levels of implementation, the cases focused on differentiation as a compliance measure. Bonnie shared “differentiation is one of those things that is talked about a lot, but there is a lot of resistance to it. It has been mandated by the principal and the TAG coordinator and all teachers need to show they can do it, but not all teachers really do it” (personal communication, October 7, 2010). Annette also shared that “differentiation is one of those terms, like RtI, that is tossed around and everyone says they do it, but we all know that most don’t do it” (personal communication, September 7, 2010). What the cases repeatedly reported was that teachers feel the pressure to comply with administrator expectations to differentiate, but they are simply complying with the demand rather than truly changing practice.

Weick (2009) describes this phenomenon when attempting to make sense of a productivity concern among a team of technicians. What he discovered was that some members of the observed team of technicians were so consumed by complying with the high-stakes, high pressure goals of the company, that they lost focus on grappling with and changing their practice. Weick (2009) applied the term “façade maintenance” to capture the reality that some of the workers were more dedicated to looking like they were implementing the new practices, than truly changing their practices. The result of the technicians’ responding to increased pressures from management and the resulting
focus on “façade maintenance” was a loss of productivity (p. 13). Spillane, Reiser and Gomez (2006) address this issue in a similar way by stating “People can be misled by superficial similarities in situations. Only with substantial expertise do they look beneath the surface to recognize the deeper principles” (p. 55). With respect to differentiated instruction, a complex approach to instruction, it appears that some teachers have engaged in “façade maintenance” to comply with the expectations of the administration, while not committing to truly changing their classroom instruction. Additionally, as Spillane, Reiser and Gomez (2006) suggest, teachers may lack the ability, without supports, to look beneath the surface and to grapple with the complexity of differentiated instruction. Likewise, their findings suggest that principals need to have enough expertise with the concept to lead its implementation as well. Spillane, Reiser and Gomez (2006) state, “when it comes to the implementation of policies that press for complex changes in extant behavior, most implementing agents are novices” (p. 55). With respect to differentiated instruction, facade maintenance is relatively easy to accomplish because it is a strategy that is “prone to misinterpretation” and can appear to be fully implemented by the use of one of the many differentiation strategies on the day of the formal teacher observation. For this reason, not only are teachers in need of learning about differentiated instruction, in a holistic sense, but administrators should also feel compelled to engage in learning about and gaining mastery of differentiated instruction.

**Protected Time and Overload**

When processing with the four cases about the perceived supports and obstacles to learning about and implementing differentiated instruction, no idea received more attention than the concept of time. As stated throughout this dissertation, differentiating
instruction is difficult and by nature takes more time, especially at the onset and early
development of activities and assessments. During the formal and informal
conversations, the author pushed the cases to be more specific about the need for more
time by asking questions like, “is it really about needing more minutes in the day?” and
“By needing more time do you really mean that you need more support, or more
resources?” In all cases, the answer was consistently that literally, more time in the day
is needed to be able to learn about and to implement differentiated instruction. Annette
shared that “the biggest obstacle is having enough time and knowing how to meet the
needs of all students. We don’t get enough time to collaborate, which is something we
really need, to do anything well” (personal communication, September, 7, 2010). Bonnie
echoed that comment by stating, “I think in our building that time is a scarce commodity”
(personal communication, October 7, 2010). When asked follow up questions about
time, Carol commented, “how much teachers feel tasked; if every minute of my day is
spent doing this, that or the other, then it’s hard for me to collaborate and to spend time
planning like I know I should” (personal communication, October 12, 2010). Similarly,
Calvin stated that “to be able to have the time, or to keep people from hiding behind
‘sounds good but I don’t have the time’ would be huge help” (personal communication,
November 11, 2010). Evidently, the idea of time is one item that all of the cases agree is
an influence on teachers having the required opportunities and resources necessary to
implement differentiated instruction.

The issue of time is obviously complex and could be the topic of its own paper,
but for this study, time is examined as a recurring obstacle to teachers. Sutcliffe and
Weick (2009) approach this issue from the perspective of “overload”. The authors define
overload as “a state induced when the amount of input to a system exceeds its processing capacity” (p. 69). The notion of being “overloaded” was a recurring theme and is arguably at the core of the teachers repeatedly identifying time as an obstacle. Carol shared that “the biggest obstacle is time. Time to meet with other people, time to plan things, time in the day. It’s a big thing to differentiate, so you need time” (personal communication, October 12, 2010).

Weick (1970) addresses this perception and the effect of such perceptions on practice by stating, “perception plays a key role in overload as overload is the perceived inability to maintain a one to one relationship between input and output within a realizable future with an existing repertoire of practices and desires” (p. 68). In all cases, the teachers reported that lack of time not only made differentiating more difficult for them, but it is the reason that other teachers choose not to differentiate. The idea here isn’t that non-adopters choose not to differentiate because it takes more time, rather in taking more time, differentiation isn’t perceived as a possibility, especially among staff members who are relative “newcomers”. Sutcliffe and Weick (2009) indicate that when individuals feel overloaded, they are more likely to feel a “lack of control” which often leads to “increasing errors” and has a negative effect on the “quality of decision making” (p. 69). This finding is relevant to this dissertation study, because teachers are reporting that they do not have enough time to meet all of the demands of their workplace responsibilities, including the evident mandates to differentiate instruction. Sutcliffe and Weick (2009) state that “time as it pertains to overload has become explicit and more prominent” (p. 70) and has the potential of limiting the capacity of the individual. It is worth noting that if the expert teachers feel overloaded and find it difficult to balance the
meeting competing demands, then those who are less expert are far less likely to commit
to an instructional philosophy that requires more time and more professional
transformation.

In this chapter, the recurring themes and ideas that emerged from the data
collection and analysis, were outlined and discussed in detail. Utilizing each of the
mediating constructs to frame the conversation; the findings were shared and were
intentionally reconnected with the theoretical framework that serves as the undergirding
for this study. A complete discussion of the conclusions and their implications for future
research, policy and practice, based on the findings, will be discussed in Chapter 6.
Conclusions and Implications for the Future

“We are like dwarfs sitting on the shoulders of giants. We see more, and things that are more distant, than they did, not because our sight is superior or because we are taller than they, but because they raise us up, and by their great stature add to ours.”

-Bernard of Chartres

Acknowledging the reality that current reform efforts like No Child Left Behind (2001) and the Individuals with Disabilities Act (2001) are demanding more from classroom teachers and mandating that the needs of each student will be met, this study has identified differentiated instruction as its focus due to its explicit and implicit inclusions in these reforms as central to their success. While differentiation is not new to public education, its complexity and multidimensionality has made it an elusive instructional approach to effectively and broadly implement. Due to the complex nature of differentiated instruction and the implementation challenges therein, it has been met with a hearty mix of both opposition and acceptance by teachers across the country. Although differentiation is argued to be central to current reform efforts, there appears to be confusing messages communicated to teachers and school administrators regarding its expected implementation, which further exacerbates the issue of implementation.

To gain insight into the conditions that exist in schools and teachers' own biographies that lead to effective implementation of differentiated instruction, this study utilized a multiple case study, focusing on four expert cases that were nested within three schools in three different schools districts. The data that was collected and analyzed
provided a valuable glimpse into the individual learning, perceptions and professional lives, organizational implications and the influences of formal leadership, of a select group of teachers who are committed to implementing differentiated instruction in public middle schools.

Employing a sociocultural theoretical framework (Coburn & Stein, 2006; Gallucci, 2003; Lave & Wenger, 1991; Weick, 2009) as a lens to examine the implementation of differentiated instruction; this study argues that implementation problems and successes with reform efforts are directly related to professional learning (Gallucci, 2003, p. 2). Accepting that implementation requires the full participation of individuals to learn and to evolve as professionals, within the context of the organization, provided the opportunity for this study to “seek more nuanced, contingent, rigorous, theory-based explications of how implementation unfolds” (Honig, 2006, p. 4). Arguing that professional learning is the true foundation of implementation, this study places the much needed emphasis on the people, communities of practice and formal leadership that influence teacher learning and ultimately, implementation. In this concluding chapter a discussion will be presented of the perceived implications of the conducted study for future research, policy and practice along with a concise conclusion will be presented.

Conclusions

Of all of the endeavors that we embark upon as human beings, it is the education of our youth that has the most potential to make our collective tomorrow, better than today. And, it is the commitment to learning and to continuously improving one’s craft that leads to mastery and to the evolution of public education. While educating our youth is unquestionably a valuable and honorable pursuit, it is a journey that is equally as
difficult, prone to missteps and constantly taking unpredicted twists and turns. In fact, public education is currently in the midst of massive reform, and with it, follows the need for educators to adjust their instruction and to transform their practice. No longer can classroom teachers take a “my way or the highway” approach to learning. It is no longer acceptable to place differing degrees of value on students based on their perceived ability or the results of standardized assessments. Today’s reform efforts, though arguably misguided or overly intrusive at times, are dedicated to the idea that each and every student in America deserves a high quality education that will provide him or her with the resources necessary to pursue and attain independence and happiness in life beyond their formal education.

This study argues that implementation must start with professional learning and that learning is a social process that requires the balance of mandates and the participation of individuals in grappling with and making meaning of the expected reform. The challenge that policymakers face in creating this change is not only in crafting well-worded policy that can find its way into actionable reform, but rather in understanding and addressing the needs of students, teachers, schools and school districts while working toward reform in public education. This type of reform effort requires policymakers to think not only about the end results or policy goals, but rather it demands that they consider teachers as individual learners, with different backgrounds and professional needs as well as acknowledging that individuals construct meaning within what Wenger (1998) refers to as a “social infrastructure to foster learning” (p. 228). Too often mandated reforms impose a universal set of beliefs onto schools with the intent of changing classroom practice, without much effort to understand the different challenges
that schools face based on location, local economy, history or culture. Often these mandates require significant changes in individual practices without any guidance about how to support or facilitate learning or change within schools. Imagine if a teacher took this approach to learning for his or her students. What would happen if a reading teacher made a sweeping mandate that all students will reach proficiency by the middle of the school year, without offering anything except a decree and the looming fear that they may be removed from the classroom if the established goal is not met? The challenge offered to policy makers from this dissertation, is to develop policy that accounts not only for the desired outcome of the policy, but also encourages leaders to create social infrastructures that facilitate learning, and reward risk-taking and innovation in schools and school districts.

As policy messages make their way from the federal and state levels to the district levels, it becomes the obligation of the principal to understand and to make sense of the policy expectations. Often this process is done in isolation, where the principal is asked to draw upon their own experience or knowledge to make sense of or to create a consistent message that can be relayed back to their staff. This process would be more meaningful for principals and likewise to all levels in the organization, if principals had opportunities to work within high functioning informal communities of practice at the district and state levels. Having colleagues with whom they could meet, collaborate and negotiate meaning about policy would increase the consistency of the message that is intended from the source and carried back to schools by their principals. What has been learned throughout this study is that teachers desire clear and consistent messages about
the reform, the expectations attached to the reform and the accountability that will be
enacted to supports implementation.

Additionally, as instructional leaders and boundary brokers, building principals
need to consider their role as being more a facilitator of learning, rather than the manager
of teachers and facilities. In a constructivist sense, the role of the principal is very much
like that of a classroom teacher and the school, very similar to the typical classroom.
Leading and modeling, the principal should state in very clear terms the learning
objective or expectations for the staff, he or she should assess the level of expertise that
each staff member possess, with respect to reform efforts like differentiated instruction
and, much like a classroom teacher, the principal should create opportunities for the
teaching staff to grapple with and negotiate meaning for differentiation and its
implementation. Similar to group work that is often used in a differentiated classroom,
the principal should offer opportunities for teachers to work with partners of their
choosing and to share ideas to get feedback and to create objects and tools that represent
the collective efforts of the group. Principals should encourage and reward high-
performing communities of practice and should celebrate exemplary lessons, activities,
assessments and units with the rest of the instructional staff. Further, the principal should
invite expert teachers to share their thinking and examples of their practice with the rest
of the staff.

As the instructional leader in the building, the principal has the obligation of
insuring that all staff members are engaged in learning and they should have a body of
evidence to support the claim that all staff members are showing professional growth
from year to year. In a school committed to learning, the principal joins all members of
the community in learning and struggling with the implementation of reform efforts like differentiated instruction. This study supports the notion that learning is a social process that requires the full participation by all members within the organization, thus, creating opportunities that allow and encourage teachers to engage in dialogue about their instruction is essential.

While considering the role of policymakers and principals is compelling and relevant, this study focuses primarily on teachers and the influences on their learning and work toward the implementation of differentiated instruction. Of all of the findings uncovered, possibly the most inspiring is the discovery that the expert differentiating teachers in this study are motivated to differentiate most by a core belief that all students can learn. Although there was some variation about the motivation or sense of urgency around differentiation, it was abundantly clear that the expert teachers enacted differentiation as a tool for providing each student with what they needed to be challenged and to show growth throughout the school year. Further, while it may be difficult to capture in assessment data, the expert teachers expressed a genuine passion for teaching and articulated a belief that good instruction starts with getting to know students and developing a relationship that is built on respect, encouragement and individual challenge. Clearly, having a staff filled with teachers who are passionate about what they do, committed to relationships, and built on a belief that all students can learn, would make any principal’s job easy; the question is how to create that change, knowing that the reality is more complex.

In addition to beliefs and articulated rationale for differentiating, this study discovered that teachers who had received differentiated instruction as students, in this
case through talented and gifted programming, called upon memories of those experiences when developing their own practices as teachers. Although hiring only teachers who were once talented and gifted students or who received differentiated instruction is not reasonable, including probing questions about experience with differentiated instruction during the hiring process for principals and teachers does seem reasonable and should be considered. There is no question that student achievement is directly related to the quality of instruction that they receive.

When the expert teachers were asked to describe the supports and obstacles that have lead to gaining mastery of differentiated instruction, all of the cases expressed that having a principal that stated a clear expectation about implementing differentiated instruction, followed by support and being actively engaged in the development of a culture that encourages and fosters learning. In all cases, the expert teachers identified having time to collaborate with experts and colleagues of their choosing as being of benefit, while also acknowledging that having enough time is a constant struggle. In a school committed to learning, it is the hope of the author that a balance between meeting expectations and avoiding “overload” can be reached to insure maximum performance for all members.

**Implications for Future Research, Policy and Practice**

Breaking from traditional implementation studies that seek to make broad-sweeping claims about the effect of a particular policy or program, this study is committed to uncovering and understanding the teacher as an individual, their existing realities within the classroom, social network via formal and informal teacher communities and the perceived influence of formal leaders in the school.
At the heart of this research is the belief that individual teachers implement instructional practices that they have learned through interaction with colleagues, objects, tools, symbols and language (Gallucci, 2003, p. 4). Taking this perspective, learning is a social and transformative process that results from the full participation of individual teachers within the context of one or more communities of practice. The mediating factors of the individual, communities of practice and formal leadership have been consistently employed to frame this investigation and will provide the structure for this section as well.

**Teacher as Individual**

While public education has always been focused on educating students, though the desired outcomes and expressed purposes have arguably changed over time, current reform efforts have placed a greater focus on the individual. Both No Child Left Behind (2001) and the Individuals with Disabilities Act (2004) have narrowed the scope from the performance of school districts and schools, to individual students and their adequate yearly progress. This intentional focus on the individual learner has resulted in an intensification of the accountability placed upon individual classroom teachers. Current studies that explore teacher effectiveness and teacher quality consistently indicate that one of the most influential factors on student achievement is the classroom teacher (Sanders & Rivers, 1996; Whitehurst, 2002). Current reform policy like Colorado’s Senate Bill 191 embodies the belief that there is a direct relationship between the quality of instruction and measurable student achievement. Whereas teachers were initially thought of as single data points within the school, placing a greater value on the overall school performance, new accountability measures are increasingly tying individual
teacher performance and in some cases, teacher compensation, to the performance of each of the students in the respective classrooms. This new hyper-focus on individual teacher performance is one of the reasons that the investigation of the background, personal experiences, education and beliefs of the selected teachers was included as a construct in this study.

With the proliferation of standardized assessments across the country, there does not appear to be a shortage of large datasets to draw from to make assertions about the effects of specific schools, programs and curricula on student performance. However, it appears that current research has paid scant attention to delving more deeply into classrooms and into individual teacher performance to identify specific practices, beliefs, behaviors and tools that are used to improve student learning and to achieve effect measurable academic student growth. Future research that hopes to examine the link between student performance and teacher effectiveness should include the exploration of the characteristics, background and beliefs of teachers may have an influence on teacher effectiveness and increased student performance. Too often, data is collected and gains of particular teachers and schools are celebrated, with little understanding about the influences in the classroom that caused the increase.

In this study, the author explored many factors of the individual and found that factors like previous exposure to differentiated instruction, as students in middle and high school, played a role in the teachers’ current practices and affected the teachers’ approach to the implementation of differentiated instruction. This study also examined beliefs and perceptions of the cases about differentiation and uncovered a compelling reality about the expert teachers and their core beliefs about students and learning.
Given what has been learned throughout all phases of this study, future research and policy development should pay attention to the reality that teachers approach their role in the classroom with different core beliefs about students and learning as well as their role in facilitating or directing student learning. These beliefs highly influence the level of commitment and readiness to consider implementing a complex instructional approach like differentiated instruction. In addition to beliefs about and experiences with differentiation, findings from this study indicate that teachers need to feel trusted, supported and encouraged to take risks in their schools. In all four cases, the expert teachers described the process of learning to differentiate and continuing to develop lessons, activities and assessments through the process of “Trial and error”. For this reason, when examining the effectiveness of schools and teachers within schools, attention needs to be given to whether teachers feel trusted and supported to employ a “trial and error” approach to teaching. Furthermore, principals need to take heed to the fact that teachers need to hear and feel that they have permission to make mistakes and to try new approaches, even if they fail. Much like classroom instruction wherein the classroom teacher challenges students to actively engage in activities that lead to the construction of knowledge, the expert teachers describe their need to feel free to actively engage in and experiment with their instruction. Further research around the creating of a culture that supports risk taking and leadership that is aligned with the notion of constructivist learning for teachers is needed.

Too often, it appears that studies approach learning as a unidimensional dependent variable that is affected by a host of identified independent variables (Sanders & Rivers, 1996; Whitehurst, 2002). While this approach allows for the use of larger
datasets and results in generalizable outcomes about the effect size of a specific initiative or program, focusing solely on this type of research may well miss the nuances and subtleties that truly affect student learning and measurable student growth. And, while there is definitely value in collecting data to measure the effects of a specific initiative on an identified group of students, this study argues that the process of learning, for teachers and students, is a multidimensional social process that is dependent upon the participants within the school and nested communities. In this sense, it is critical to examine the context of each school and each classroom to investigate what it is about each community that leads to individual student learning and measurable academic growth. Future research should include the investigation of the social, cultural, and political influences that support or hinder the implementation of instructional approaches like differentiated instruction.

**Communities of Practice**

This study posits that the implementation of reform efforts, like differentiated instruction, is dependent upon professionals learning about and deliberately choosing to change their practice to more closely align with the policy message. Coburn and Stein (2006) describe this process by stating “policy can be seen as an attempt by members of one community of practice (policy makers) to influence or coordinate the practice of others (communities of practice within schools) via boundary objects, brokers or practices” (p. 30). Applying the concept of communities of practice, this study examined the people and structures that were most influential in the selected schools, their role in professional learning and the resulting implementation of differentiated instruction. The findings from the data collection resulted in the conclusion that informal communities of
practice that met frequently, if not daily, and included members that participated by choice in dialogue about common problems, and attempts to understand and enact differentiated instruction, were most effective. In fact, though the cases initially identified the formally structured and schedule “team meetings” as their opportunity to collaborate, when the author pushed further he discovered that this semi-protected time is not actually used to consistently discuss instruction or practices that lead to the effective implementation of instructional approaches like differentiated instruction.

This finding is valuable and provides insight into potential change in policy and practice that needs to occur in schools around providing what Wenger (1998) refers to as a “social infrastructure to foster learning” (p. 225). Lave and Wenger’s (1991) Situated Learning Theory argues that for learning to occur, there needs to be a balance of the reification of practice and the participation of individuals within a community to negotiate meaning; to learn, before implementation can occur. Findings from this study indicate that while efforts within schools to create protected times, like team meetings, are noble, these efforts may not be sufficient in creating high-functioning effective communities of practice that will result in professional learning and ultimately in the change of practice. The expert cases repeatedly referenced the value and support of choosing likeminded professionals who shared their commitment to differentiated instruction and who were open to providing feedback and sharing tools. While providing opportunities for professionals to dialogue about practice, share ideas and give each other feedback were frequently identified as needs by the cases, current schedule rigidity and perceptions of accountability that place too much emphasis on external control, make such a reality difficult.
What needs further exploration, is how schools that are traditionally rigidly scheduled to accommodate the plethora of established variables like transportation and food service schedules, can allow for an effective “social infrastructure for learning” to develop. Additionally, there needs to be further work done in understanding the role of accountability in a new and innovative system that prioritizes meeting by choice, with individuals of choice. Just as expert teachers can gain support, resources, feedback and tools that support their professional learning and the implementation of differentiated instruction, if likeminded professionals who wish to continue to teach in a method that is congruent to differentiated instruction meet and form a community of practice, there could be an increase in the sense instability and confusion about the expectation around implementation. Further, beyond the development of opportunities for teachers, and other building experts to meet and to collaborate about instruction and areas of passion, the issue of teacher engagement needs to be addressed. In this study, four expert cases that were passionate about differentiating their instruction were included. However, there are predictably many teachers in every school that refuse or are ill-equipped to engage in meaningful conversation that is completely informal and created by the shared passion and commitment of others. There is a need to further explore how meaningful communities of practice can exist within schools that meet the unique needs and talents of all teachers, without reverting all the way back to formalized mandatory meetings like the described “team meetings”. While having opportunities to meet and learn from each other was referenced as a need to differentiate, allowing individuals to choose not to differentiate was also reported as an obstacle and a form of interference for others who want to differentiate, but are unsure about the building expectation, support and culture.
In addition to exploring approaches of fostering the development of effective, yet differentiated informal communities of practices, the expert teachers expressed that there is both value and a need for more expert teachers modeling, providing feedback and offering mentorship at their schools. Essentially, policymakers, regardless of their level, develop policies with a desired outcome in mind, but often fail to design a means of implementation that includes professional learning, into the policy or goal. The expert teachers described that having mentors and lead teachers who could model and provide feedback was exceptionally instructive with the implementation of differentiated instruction. By prioritizing the need for experts, models and mentors, the cases describe a need to provide opportunities to participate with the policy or mandate (reification) in order to negotiate meaning, to make sense of the expectations so that the new practices can become actionable in the classroom. In this sense, lead teachers, mentors, experts and administrators have the potential of “cross-community visitations” that create overlapping among the many communities within the school. Having “boundary brokers” that can create a common dialogue or participation around an expectation or mandate “encourages the development of both local and coordinated negotiations of meaning” (Coburn & Stein, 2006, p. 39). The implication for research, policy, and practice is fairly evident. There needs to be more work around identifying, developing and utilizing the talented leaders, both formal and informal, in each school to continuously model, support, provide feedback and participate in communities throughout the school.
Leadership

The role of the middle school principal is one that is multifaceted and filled with expectations that come from the school building, local community, district and state levels. For this reason, the principal has a unique and challenging role of providing vision and leadership for the school, while managing the many demands of the school. Much like the classroom teacher, the principal has to balance, manage and attend to a variety of responsibilities and duties while effectively attending to the needs of the individuals with whom they work. While this dissertation is focused on classroom teachers and the influences on their learning that lead to the implementation of differentiated instruction, the framework of this study could easily be replicated for building and district leaders to gain insight into how leaders learn about and support the implementation of complex instructional strategies like differentiated instruction. In fact, it is the notion of the principal as an “instructional leader” that is interesting and the cause of for its inclusion in this study. Theoretically, as an identified “instructional leader” in the school, principals should play a role in providing opportunities that support professional learning and the implementation of differentiated instruction.

Throughout the data collection, the cases described the role of the principal as being the one who makes the expectation clear about differentiation and clarifies its purpose and value to students and staff, or prioritizes it above other instructional approaches. Coburn (2004) argues that how teachers make sense of a policy is influenced by the nature of the teacher’s connection to the policy messages. She further argues that like teachers, principals use pre-existing knowledge, beliefs and experiences to understand and make sense of policy messages, which are then transmitted to teachers
in ways that fundamentally shape how teachers come to understand and interpret policy (p. 490). In this context, principals play a role much larger than simply transmitting a message from a higher level about a reform initiative or simply enforcing a mandate. In the role of building leader, principals can directly influence the sensemaking and sociocultural learning process of policy expectations. While there is an obvious need to better understand the degree and type of influence principals have on teacher learning, there is little attention given to this phenomenon in the literature.

There is also little question that the role of the principal, the formal building leader, is valuable and serves a significant role in the implementation of differentiated instruction. However, there is much needed work in exploring and understanding the role and influences of building leadership on teacher’s accessing policy messages, understanding the nuances of policy and engaging in learning that results in a positive change in practice. Furthermore, by accepting that the building principal influences how teachers understand and access policy messages, there is greater need to focus on principal learning. In this study, the notion of the principal being an instructional leader, one who participates in multiple communities of practice within the building, serving as a boundary broker within the building, was identified by the cases as being a support and a need. In fact, the role of the principal as a boundary broker, extends beyond the school building and needs to include communities of practice at the central office and within local organizations that influence the principal’s access and understanding of policy messages and mandates. In this sense, the principal is not only a boundary broker within the school, but he or she also provides the much needed overlap with the district and the learning that occurs at that level as well as with organizations beyond the school building.
Additional research in understanding the communities of practice, outside of the school building and their influence on principal and transversely teacher learning, is needed. Additionally, principals like classroom teachers, should be considered educators who are in a constant state of evolution. However, less attention is paid to the training and professional development of principals, especially with respect to instructional practices that are too often relegated to being the sole responsibility of the classroom teacher. While principals often seek training about leadership, managing the school budget or understanding policy at the state and federal levels, little opportunity or incentive is given to urge principals to continue to learn as teachers. This lack of focus on learning instructional approaches, like differentiated instruction, creates a learning gap between teachers and administrators that can damage the perceived authority that a principal has in making demands about classroom instruction. This learning gap has obvious and potentially extreme consequences in schools where instructional reform is occurring. To further intensify this issue, principals are often assumed to possess expertise in areas that they are expected to provide instructional leadership within their schools. However, we know that expertise and mastery of instructional practices doesn’t just happen; learning is intentional and requires the same level of commitment and passion as is expected of the classroom teacher.

Coburn (2004) supports this idea by stating “among other things, this [professional development for school leaders] means exploring the connections between pedagogical ideas underlying new approaches to instruction and how school leaders frame those ideas in their discussion” (p. 502). In essence, in our quest to leave no child behind we have to remember that we cannot leave our teachers, our administrators or our
support staff behind. Additional research and the potential change in practice around preparing and supporting the learning of school principals are needed. Based on findings from this study, there is an obvious need to explore learning opportunities for school administrators during preparation coursework as well as the professional development opportunities that are offered to support practicing administrators, with respect to instructional approaches like differentiated instruction.

Finally, one implication for the future for school and district administrators is about having the ability to effectively share information about reform initiatives with their school, community and colleagues (Coburn & Stein, 2006). The cases in this study commented on the need to feel valued, trusted and respected when being asked to consider new approaches to teaching. While sending clear messages about the expectation to differentiate instruction is important, it is equally important for formal leaders to provide supports, to protect time for collaboration, to reward risk taking and to find ways to create flexibility within the school day for informal communities of practice to develop. While it is possible that all schools have had some form of professional development focused on differentiating instruction, this study argues that professional development that is given out of context, and without a clear purpose, is of little value to teachers who are expected to significantly change their practices. Much like instruction in the classroom, we know that individuals learn best when they have the opportunity to construct meaning with and about the concept, rather than simply having the information transmitted to them passively. School administrators need to consider differentiated approaches to facilitate, model and encourage learning throughout the school year, while providing targeted time for teachers to plan, collaborate and create. In schools, the goal
is learning, but we have to consider the learning of all members of the community, the students, the teachers, the support staff and the school administration if that goal is ever to be realized.

This dissertation has explored the implementation of differentiated instruction in three public middle schools, with four identified expert teachers. The goal was to uncover the conditions that exist in these schools that have lead to these teachers gaining mastery of differentiated instruction. Utilizing the constructs of the teacher as individual, communities of practice and leadership influences, this study has delineated the findings, proposed implications for future research, policy and practice and offers a glimpse into the possibilities of public education if the commitment in policy and practice is focused squarely on learning for all members of the school community.
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Appendix A

Consent Form for Interviews

Title: Understanding Differentiation

Invitation to Participate: You are being asked to participate in this research study because of your position in your current school. Your school was selected for this study because of its student population size, location, performance on CSAP and current practices with respect to differentiation.

Purpose: This study will focus on gaining a more complete understanding of the concept of differentiation from the classroom teacher’s perspective and to construct some meaning regarding the sensemaking and implementation of this complex instructional strategy.

Procedures: Your participation will entail an approximately 60 minute interview that will take place at your convenience. The interview questions will cover topics about your definition of differentiation, your feelings about differentiation, any relevant training that you have received and how differentiation is implemented at your school. A list of interview questions will be provided prior to our meeting, if requested. The estimated length of this interview is sixty minutes. To accurately capture what you tell us, interviews will be audio recorded.

Classroom observations will also be conducted in increments no less than fifteen minutes per observation. Information gained during these scheduled observations will not, in any way, be reflected in your formal evaluation.
Risks and Benefits: Participation in this study presents little or no risks. You will receive a small stipend for your participation in this study. The project may yield valuable data about the conceptualization and implementation of differentiation. The information gathered will be used to understand the concept of differentiation and its potential impact on student achievement.

Confidentiality: The investigator will hold all information collected in this study strictly confidential, except as may be required by court order or law. Authorized representatives of the UCCS Institutional Review Board (IRB), a committee charged with protecting the rights and welfare of research subjects, may be provided access to research records that identify you by name. If any publication or presentations result from this research, you will not be identified by name nor will your school or school district be identified by name.

Additional Information: You may be asked to continue as a participant in the study in future phases.

Disclaimer/Withdrawal: You agree that your participation in this study is completely voluntary and that you may withdraw at any time without prejudicing your standing within the University of Colorado at Colorado Springs. Whether or not you participate in this research study will have no affect on your employment status in your school or school district.

Subject Rights: If you wish further information regarding your rights as a research subject, you may contact the IRB Chair at the University of Colorado at Colorado Springs by phoning 719-262-4150. You have been given the opportunity to ask questions and have had them answered to your satisfaction.
**Conclusion:** You have read and understand the consent form. You agree to participate in this research study. At the beginning of our interview, you will be asked to affirm your participation in this study.

**Primary Researcher:**

Jim C. Smith, Principal – Eagleview Middle School
Appendix B

Initial Questionnaire – Individual Cases

How did you learn about differentiating instruction (ex. college, professional development, other)?

From whom do you seek support to better differentiate instruction (list names and positions, agencies, etc)?

Briefly describe differentiated instruction (what does it mean to you – no more than 3 sentences)

What does differentiation look like when implemented?

What obstacles do you believe prevent teachers from differentiating instruction?
Appendix C

Demographic Data – Individual Cases

Name:
Gender:
Age:
Location (School and District):
Total years teaching:
Years teaching at current location:
Years teaching middle level (List other middle schools):
First Degree Major (BA/BS):
Second Degree Major (MA/MS):
Third Degree Major (PhD/ED, Other):
Subjects you have taught:
Subject(s) currently teaching (2010/2011 SY):
Years experience teaching current subject:
Have you taught at the elementary level (K-5): Yes No
If yes, how many years?
Have you ever taught at the high school level (9-12): Yes No
If yes, how many years?

Demographic Data – School and District Level

District Name:

- Number of Schools -
- Number of Middle Schools -
- Total Student enrollment -
- Percentage Title I –
- Rural/Urban/Suburban
Appendix D

Interview Protocol: Differentiated Instruction: Exploring Conditions for Successful Implementation

Time of Interview:

Date of Interview:

Interviewer:

Interviewee:

Position and location of Interviewee:

Questions:

1. What attracted you to becoming a teacher?

2. How do you define “differentiation”? Why that definition?

3. How have you come to know about and use differentiation in the classroom?

4. What effect does the organization, culture have on differentiation?

5. How do you feel about differentiation? How do you know when to do it?

6. What obstacles do you believe hinder or prevent teachers from differentiating?

7. What supports and/or resources are essential for the successful implementation of DI? Who do you go to for supports?

8. How well do you think your colleagues are doing with implementing DI? Is it real or superficial?

9. How does building leadership effect the implementation of DI?
10. How would you describe the connection between educational policies at the federal and state levels (NCLB, IDEA) and the need for differentiating instruction?

11. What role do professional learning communities play in the understanding and implementation of DI at your school?

12. Is there a question/piece of data that hasn’t been addressed but that you think would be valuable to our conversation?
Appendix E

Classroom Observation Tool – Differentiated Instruction

Adapted from the “Classroom Observation Form for Summative Assessment of Differentiated Instruction” developed by Tomlinson, Brimijoin and Narvaez (2008).

School:    District:
Teacher:    Subject:
Date:     Lesson Topic:

Domain I. Context/Goal Setting

1-No Evidence, 2-Weak but existing Evidence, 3-Some Evidence, 4-Strong evidence

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<thead>
<tr>
<th>No.</th>
<th>Task</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>1.</td>
<td>Established clear learning goals</td>
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<tr>
<td>2.</td>
<td>Linked new subject matter to prior knowledge and/or experience</td>
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<tr>
<td>3.</td>
<td>Most students appeared aware of and understood learning goals</td>
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<tr>
<td>4.</td>
<td>Teacher provided rubrics or other guides to focus students on goals</td>
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<tr>
<td>5.</td>
<td>Closed the class with a focus on goals/meaning of lesson</td>
<td></td>
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Comments:

Domain II. Student Assessment

<table>
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<tr>
<th>No.</th>
<th>Task</th>
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<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>1.</td>
<td>Implemented and used results of pre-assessments to adjust lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Implemented assessment during lesson to gauge understanding</td>
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<tr>
<td>3.</td>
<td>Attended to student questions/comments during lesson</td>
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<td>4.</td>
<td>Implemented assessments at end of lesson to gauge student learning</td>
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<tr>
<td>5.</td>
<td>Used frequent informal checks to gauge student learning and readiness</td>
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Comments:
Domain III. Attention to Individuals/Building Community

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<tbody>
<tr>
<td>1</td>
<td>Teacher talked with students as they entered/existed the classroom</td>
</tr>
<tr>
<td>2</td>
<td>Teacher connected with individual students during class</td>
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<td>3</td>
<td>Teacher helped develop awareness of one another’s strengths/contributions</td>
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<tr>
<td>4</td>
<td>Involved whole class in sharing/planning/evaluating</td>
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<tr>
<td>5</td>
<td>Provided opportunities for all students to use their voice in the room</td>
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Comments:

Domain IV. Instructional Practices and Classroom Routines

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<tbody>
<tr>
<td>1</td>
<td>Varied student groupings (individual, pairs, small groups)</td>
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<tr>
<td>2</td>
<td>Used multiple modes of instruction, with emphasis on active learning</td>
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<tr>
<td>3</td>
<td>Made flexible use of classroom space, time and materials</td>
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<td>4</td>
<td>Communicated clear directions for all tasks</td>
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<td>5</td>
<td>Displayed effective classroom leadership/management</td>
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Comments:

Domain V. Positive, Supportive Learning Environment

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<tbody>
<tr>
<td>1</td>
<td>Demonstrated respectful behavior toward students</td>
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<tr>
<td>2</td>
<td>Demonstrated sensitivity to differences in the classroom</td>
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<td>3</td>
<td>Celebrated student successes/accomplishments</td>
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<td>4</td>
<td>Fostered active participation by a broad range of students</td>
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<td>5</td>
<td>Made students comfortable asking questions and requesting help</td>
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Comments:

Domain VI. Quality Curriculum

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<tbody>
<tr>
<td>1</td>
<td>Lesson targeted one or more state learning standards</td>
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2. Lesson focused on important and relevant ideas, issues, events or problems

3. Tasks emphasized thought/meaning versus drills and repetitive practice

**Comments:**

**Domain VII. Preparation for and Response to Learner Needs**

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<tbody>
<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>1. Teacher showed proactive preparation and planning to meet the needs of a variety of students</td>
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<td>2. Teacher attended to the needs of students who struggle with learning</td>
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<td>3. Teacher attended appropriately to students with physical and behavioral challenges</td>
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<td>4. Teacher attended to the needs of advanced learners</td>
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**Comments:**

**Domain VIII. Evidence of Differentiation**

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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>1. <strong>Content</strong>: e.g., materials of varied readability and interest, multiple ways to access ideas, concepts and information</td>
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<td>2. <strong>Process</strong>: e.g., tiering, contracts, compacting, choice, scaffolding, tasks in multiple modes</td>
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<td>3. <strong>Products</strong>: e.g., product assignments with multiple modes of expression, choice of how and with whom to work, opportunity to connect learning with individual interests, variety of assessment tasks, variety of scaffolding</td>
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**Comments:**

**Additional Comments/Observational Notes**
Appendix F

Sample Participant Journaling Exercise

Journaling Topic – Communities of Practice

Acknowledging that learning occurs in many ways, whether a formalized learning opportunity or informal interactions, this study intends to investigate the influence of communities of practice on teacher learning (Remember that this concept is not limited to the concept of PLCs). To that end, I need the following information from each participant in this study. Thank you for your participation.

1. How often do you meet with your team?
   - How long do these meetings last?
   - How often do you discuss differentiating instruction?
   - Who is included in these meetings?
   - How supportive are these meetings to you as a differentiating teacher?
2. How often do you meet with your grade level as a team?
   - How long do these meetings last?
   - How often do you discuss differentiating instruction?
   - Who is included in these meetings?
   - How supportive are these meetings to you as a differentiating teacher?
3. How often do you meet as a staff?
   - How long do these meetings last?
   - How often do you discuss differentiating instruction?
   - How supportive are these meetings to you as a differentiating teacher?
4. How often do you meet with an informal professional team (i.e. Librarian, TAG Coordinator, Administrator, Special Educator)?
   - Who is included in your informal team?
   - How long and/or how often do these meetings last?
   - How frequently do you meet with this team?
   - How do these meetings support differentiating instruction?
   - Why did you select or how did you become a member of this informal “community of practice”?
5. Please describe a time or a recurring opportunity that has supported your understanding about differentiated instruction and/or your implementation of differentiated instruction.