ADDRESSING THE NEEDS OF DIVERSE LEARNERS
THROUGH DIFFERENTIATED INSTRUCTION

By

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ABSTRACT

Addressing the Needs of Diverse Learners Through Differentiated Instruction

Emily Louise Gibson

Differentiated instruction is a way of thinking about teaching and learning that leads to modifying what students learn (content), how they learn (process), and how they show what they’ve learned (product), based on students’ individual needs. In a review of the current literature, students’ and parents’ perspectives on differentiation were not fully represented. This qualitative research project assessed the perspectives of a group of students and parents in a 6th-8th-grade charter school classroom where differentiated instructional practices were utilized.

Data collection methods used during this study included anecdotal records, student and family interviews at the end of the year, and student and family inventories of multiple intelligences and learning interests.

Participants in this study chose alternative schools for four primary reasons: personal connection to the teacher, dissatisfaction with current school, occurrence of a negative event, and medium ground between home school and public school. Differences between this alternative school and previous schools included size/setting, opportunities/community, the personality/focus of the teacher, and the school’s attention to differences through differentiation. The impacts of these differences included greater ability to concentrate and focus on learning, increased student interest in learning, greater satisfaction with school by parents and students, and increased social/emotional growth.
In conclusion, differentiated instructional practices implemented at this small charter school had a positive impact on student growth, as determined by student, parent, and teacher input. Further research is needed to examine the issues of class size/setting and teacher personality as other variables that impact student growth.
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INTRODUCTION

A predominant theme in Western thought, especially in the United States, is the idea of individual uniqueness and individual rights. Freedom of choice underlies the U. S. Constitution and our daily lives, as individuals make choices large and small. Adults choose how to vote, when and if they will get married, whether to have children, how they will practice religion, and what line of work to pursue. However, the existing institution of K-12 public education has skirted the tenants of individuality, remaining centered on the industrial-era, factory model of teaching and learning. The idea that everyone learns differently seems to be common sense, yet one-size-fits-all instruction based on age-grade groupings, whole-class lecture teaching, and lockstep progress is the norm in the United States (Hess, 1999; Snyder, 2000; Sizer, 1999).

Classrooms in the United States are diverse. Every school in the nation includes students with diverse family structures; socioeconomic statuses; ability levels; and cultural, religious, and linguistic backgrounds (Kronberg & York-Barr, 1997). For example, over 40% of K-12 school children come from African American, Asian American, Latino, and Native American ethnicities. In the year 2000, European Americans were a numerical minority in six states, and Los Angeles schools’ Limited English Proficient (LEP) population was larger than the entire LEP student population in 38 states (Haycock & Robinson, 2001). Classroom experience points to the additional, invisible diversities of learning differences. Some students come to school with little support and encouragements from home, while others come to school already
possessing skills and knowledge years beyond grade level expectations (Tomlinson, 1999). Caine & Caine (1990) note, “There can be up to a five-year difference in maturation between any two ‘average’ children” (p. 2). Parents, special education organizations, and legislation, including the Education for the Handicapped Children Act of 1975 and the Individuals with Disabilities Education Act of 1990, have made inclusion of students with special learning needs—both advanced learners and struggling learners—in the general education classroom a priority (Stronsnider & Lyon, 1997). This serves to further increase the diversity of classrooms as these students spend more of their school days with general education teachers.

However, cultural differences and ability only explain a portion of the variety teachers face on any given day. Often, the same instruction has different effects on different students. A hands-on lesson on algebraic functions works for some students but makes little connection with others. A visual presentation on causes of the Civil War leads to improved understanding for only a third of the class. Working from a whole to part model clarifies the workings of a computer for half the class. These differences raise the questions of why and how we can better design instruction to accommodate these differences.

Within the last two decades, many educational researchers have explored individual differences in learning, creating theories of thinking, learning, and teaching (Gardner, 1999; Caine & Caine, 1990; Powell, 2000; Brooks & Brooks, 1999; Duckworth, 1996; Dunn, 2001; Silver, Strong, & Perini, 1997; Sternberg, 1994; Guild, 1994; McCombs, 2001; Sylwester, 1994). Multiple intelligences theory, brain-based
instruction, and learning styles models are a few of the current bodies of research describing ways to organize and understand the learning differences in our classrooms.

Whereas the theories mentioned above work to explain why there are differences, the theory of differentiated instruction (Tomlinson, 1999, 2001) offers a philosophy of how to think about teaching, learning, and learners based on the premise that teachers should, and can, adapt instruction to student differences (Hess, 1999). Differentiated instruction is a bridge theory, one that provides a link between current research and theory and high standards and student outcomes.

Multiple intelligences, brain-based instruction, learning-style models, and differentiated instruction all share common themes. One central theme is that students learn in different ways and that schools that teach in different ways will increase student success. Each theory incorporates the conclusion that current, traditional models of instruction only work for a portion of the population. Given the focus on standards-driven curriculum and high-stakes testing in our public schools, some researchers question whether differences will be addressed within the current educational system. Tomlinson (1995) postulates that we must create an entirely new vision of education in order to effectively meet the diverse needs represented in our classrooms.

Addressing the question of how to improve learning for all students by effecting change within the current educational system is the focus of numerous studies (Caine & Caine, 1995; Tomlinson et al., 1997; Tomlinson, 2000a; Pettig, 2000; Tomlinson, 1995). Results show that it takes enormous effort and support to change a system from within and that buy-in from staff, administration, students, and parents must be high. Though
current research on differentiated instruction primarily focuses on the change process of moving from an undifferentiated model to a differentiated model within an existing school or district, few studies have examined the change process involved in creating a new school based on current learning theory. In addition, most studies have understandably focused on the teachers’ perspectives, since they are the ones who must actually enact change. Several studies have used student and parent input to support the need for change (Reis et al., 1998; Kronberg & York-Barr, 1997; McCombs, 2001; Tomlinson, 1995). However, an extensive review of the literature using ERIC and Academic Search Elite turned up no studies focused on student/parent perceptions of learning differences, the need to address them in schools, or the reality of creating a school designed to accommodate, celebrate, and work with learning differences.

This qualitative case study followed ten middle school students at a new charter school site designed to meet diverse student needs through differentiated instructional practices. Data on student thinking, parent perceptions, and teacher reflection was used to answer the question, “How do students and parents respond to a classroom implementing differentiated instructional practices?” The study investigated three sub-questions: Why did these students and parents choose alternative education?; What, if anything, is different about this school?; and, What, if any, impacts do those differences have on their learning throughout the year?
REVIEW OF LITERATURE

Introduction

To fully analyze the foundations of differentiated instruction, it is helpful to review the underlying philosophies and theories and examine the history of inclusion as well as the current state of education in the United States. For these reasons, this literature review begins with the history and impact of inclusion, then examines student diversity, including demographic differences and individual learning differences, followed by the current state of education. I will share the research foundations for multiple intelligence theory, brain-based learning theory, and learning styles theories. Then the findings of these theories are summarized, followed by a review of the philosophy and practice of differentiated instruction as a way to meet the needs of diverse learners in heterogeneous classrooms. The literature review ends with a summary of the literature on change processes in education, recommendations for further research in the field, and a proposal for this study.

Impact of Inclusion

History of inclusion

In the past, schools tried to meet the needs of struggling and advanced learners by pulling them from the general education classroom for part or all of the school day and assigning them to special classrooms grouped homogeneously. This started to change with the 1975 Education for the Handicapped Children Act (EHCA), which
“...guaranteed that students with disabilities would receive as much of their education as possible with students who are not disabled” (Stronsnider & Lyon, 1997, p. 611). In the 1990s, amendments to the EHCA, now called the Individuals with Disabilities Education Act (IDEA), increased schools’ responsibility for inclusion of students with special needs in general education classrooms (Stronsnider & Lyon). Schools have typically met this requirement by having special and general educators collaborate together (Stronsnider & Lyon). Tomlinson (1995) summarizes the results of inclusion as:

...many advanced and struggling learners who once had special learning needs addressed through special classes and or resource room programs are now served almost entirely through the general heterogeneous classroom. (p. 77)

The mainstreaming requirements of IDEA apply to all exceptional learners, at both ends of the spectrum. Students with identified learning disabilities as well as students with identified academic gifts are spending more of their school days in general education classrooms (Tomlinson, 1995; Hall, 2002; Snyder, 2000; Troxclair, 2000; Goree, 1996). The assumption of inclusion is that the needs of exceptional learners can be served as well in heterogeneous programs as in homogeneous programs (Tomlinson et al., 1997), such that

Students with unique learning needs belong to everyone; they cannot belong to the specialist down the hall who will ‘fix’ them...there is no part-time solution to a full-time need: an hour a day or a half-day a week in a specialized program is not powerful enough to make enough difference in the learning of most students.... (Tomlinson, 2000a, p. 4)

Research shows separate services have not resulted in improved learning for students with special learning needs; instead, separate services are actually detrimental to
students’ academic and social learning (Baker, Wang, & Walberg, 1994). Adapting curriculum to the needs of both struggling and advanced learners necessitates differentiating the curriculum, but few teachers are trained in or aware of differentiation. As a result, teachers make few, if any, modifications for exceptional learners at either end of the spectrum (Tomlinson & Kalbfleisch, 1998, Tomlinson et al., 1997).

Impact for students with learning disabilities

According to some studies, “…the vast majority of students with intellectual disabilities do better in integrated classrooms rather than special education programs” (King-Sears, 1997, p. 2). Other studies find there is a small to moderate beneficial effect of inclusive education on the academic and social outcomes of students with learning disabilities. The effects are positive, but effective educational methods for handling inclusion are necessary to increase the positive benefits (Baker et al., 1994), because “…even when students with mild disabilities are taught by general educators who are receptive to their presence and who promote their progress, the instruction is not differentiated systematically to meet their individual needs” (King-Sears, p. 9).

Impact for students with advanced learning needs

The effects of inclusion on academically advanced students’ learning are not as positive. Research indicates high-achieving students in general education classrooms tend to receive inappropriate curriculum and instruction (Tomlinson et al., 1997; Reis et al., 1998; Hall, 2002; Troxclair, 2000; Goree, 1996). For some advanced students, 84% of the learning activities were exactly the same as the general classroom population (Reis, et al.). Even in schools with reputations for effectiveness in meeting students’
individual needs, “teachers reported making only minor modifications in the regular curriculum to meet the needs of gifted students” (Westberg & Archamabult, 1997, p. 42).

There is a positive effect on the achievement of gifted students when they receive instruction in homogeneous classrooms with accelerated curricula (Hess, 1999). However, some gifted teachers prefer inclusion because “…mixed-ability classrooms take the pressure off [advanced learners]…. the idea is to create an inclusive atmosphere where everyone is valued for what they do” (Hess, side bar, para. 6), which allows advanced learners to have weaknesses as well as strengths. In addition, when teachers appropriately modify the curriculum for gifted students, the bar is effectively raised for all students in the class (Hess).

Summary of inclusion

Inclusion can work well when “the classroom teachers are well trained in dealing with the many and varied student needs; provided with resource personnel; and given time to plan” (Goree, 1996, p. 22). Without training and resources, teachers will often resort to using standardized teaching practices aimed at the mid-level learners, which frustrates exceptional learners at both ends of the learning spectrum (Goree).

Diversity in a general education classroom comes from many other sources in addition to inclusion. Student demographics, such as ethnicity and language, as well as individual learning differences, including ability and experience, both play roles in making classrooms complex learning environments.
Student Differences

“Students who are the same age differ in their readiness to learn, their interests, their styles of learning, their experiences, and their life circumstances” (Tomlinson, 2000b, p. 1). These differences can be separated into two broad categories: demographic differences and individual learning differences.

**Demographic differences**

Demographic differences, including ethnicity, language, religion, socioeconomic status, parental education, nutrition, and family structure, cause public schools throughout the United States to have higher diversity than schools in most other countries in the world.

**Ethnicity and cultural identity differences.** According to the National Center for Education Statistics, “in the year 2000, 39% of public school students were considered to be part of a minority group, an increase of 17 percentage points from 1972” (Wirt, Kridl, Livingston, & Tobin, 2002b). Latino and African American students each accounted for 17% of the student population, and Native Americans, Asian Americans, and other ethnic groups combined account for 5% of the population (Wirt et al., 2002b). In at least six states, European American students are becoming a numerical minority (Haycock & Robinson, 2001). For example, in California, Latino students make up 42 %, European Americans 37%, Asian Americans and Pacific Islanders 11%, African Americans 9%, and Native Americans 1% of the population (Mora, 2000).

**Linguistic differences.** Linguistic diversity shows similar trends, with every state trying to address the learning needs of students who speak languages other than English.
In Lancaster, Pennsylvania, students speak 91 different languages (Haycock & Robinson, 2001), while the state of Nebraska reports 44 languages spoken other than English (Rowch, 2002). California serves approximately 1.4 million second language learners each year (Mora, 2000). More specifically, 37% of the students in California speak languages other than English, with 57 languages identified by the California State Department of Education (Mora).

**Socioeconomic status differences.** Diversity related to socioeconomic status impacts the nation’s schools as much as linguistic diversity. “Poverty poses a serious challenge to children’s access to quality learning opportunities and their potential to succeed in school” (Wirt, Kridl, Livingston, & Tobin, 2002a). Though the school-age poverty rate has decreased since 1994, 15% of all children age 5-17 lived in households below the poverty level (Wirt et al., 2002a). That equals over 6 million children. In California, 25% of children age 5-17 live in poverty, with greater proportions of ethnic minority students living in poverty than European American students (Mora, 2000). Nationwide, immigrant children are twice as likely to live in poverty as the general population (Elmelech, 2002). The foreign born population has increased 57% in the last ten years, with one out of every five children under the age of 18 estimated to have at least one foreign-born parent (Elmelech).

Research and statistics show relationships between demographic differences and student success in public schools. Using high school drop out rates as an indicator of success, in 2000, 10.9% of 16 to 24 year olds were high school dropouts (Kaufman, Alt, & Chapman, 2001). Though dropout rates have decreased since 1972, percentages of
dropouts have remained fairly consistent since 1987 (Kaufman et al.). Dropout rates show correlation with socio-economic status: Young adults living in the lowest 20% of family incomes were 6 times more likely to drop out than peers living in the top 20% of family incomes (Kaufman et al.). Drop out rates are higher for African Americans, Latinos, Native Americans and students from low socioeconomic status, while European Americans and Asian American students had much lower rates (Kaufman et al.). Culturally and linguistically diverse (CLD) students are four times more likely to drop out than their native English-speaking peers (USCCR, 1997).

Clearly, student differences are causing students to have different learning experiences in our public schools.

Individual learning differences

Diversity of students includes more than demographic differences: Individual learning differences account for a large, invisible portion of the diversity in our schools. Individual learning differences can be separated into four main categories: ability, experience, inclusion, and preference or style.

Ability. Ability is traditionally determined by school performance, scores on standardized tests, and IQ testing. Though current teachers often work with only one grade level, the level of diversity found in that one grade level rivals that found in a one-room schoolhouse from the 1800s (Tomlinson, 1999). Estimates of instructional levels existing in general education classrooms range from a low of four to five grade level equivalents (Kronberg & York-Barr, 1997), to a high of seven to eight grade level equivalents (Reis et al., 1998). In addition, “…there can be a five-year difference in
maturation between any two ‘average’ children” (Caine & Caine, 1990, p. 66). Several studies find that in inclusive classrooms, the needs of students with learning difficulties are met more often than the needs of academically advanced students (Troxclair, 2000; Reis et al.; Westberg & Archamabult, 1997; Hall, 2002; Brooks & Brooks, 1999). Knowing that the “…tendency to ‘teach to the middle’ or to develop and deliver a standard, one-size-fits-all curriculum” exists, researchers are concerned about whether “…the broad movement towards heterogeneous groupings” will be appropriately met with changes in teaching practices (Tomlinson, 1995, p. 77).

**Experience.** Another element of learning differences is student background and experience. Some students come from homes with less support and encouragement than others, which can lead to lower performance on academic tasks. Other students come to school already knowing what their age cohorts are beginning to learn, which means they are ready for more challenging material from the start (Tomlinson, 1999). In addition, students come from a wide variety of backgrounds, and some may have more experience with a particular subject or unit topic, while others may have much less experience. Due to the lock-step nature of current education, as described in the next section, students with less or more preparation for learning are still expected to complete the same curriculum within the same time frame.

**Inclusion.** As discussed earlier, the numbers of students with learning disabilities and advanced abilities in general education classrooms have increased. Given the national shortage of special educators, the general classroom teacher is often the main instructor for students with special needs (Stronsnider & Lyon, 1997). As a result,
inclusive classrooms are the norm, “with general classroom teachers having primary, if not sole, educational responsibility for the full spectrum of learners, including students who have a range of learning problems and learners who are advanced” (Tomlinson et al., 1997, p. 269).

In 1998-1999, almost half of students with learning disabilities spent 80% or more of their school day in general education classrooms (Inclusion of Students with Disabilities, 2002). This represents an increase of 16 percentage points in 10 years. Though part of this increase is due to changes in inclusion practices, the remainder is due to an overall growth in special education K-12 enrollments, up to 13% in 1998 from 11% in 1988 (Inclusion of Students with Disabilities).

Preference or style. Besides cognitive ability or preparation, students also differ in how they approach learning. Students of any particular age will differ in their ways of learning, and empirical research and experiences validate these learning style differences (Guild, 1994). What is not agreed upon is how to describe these learning differences. Three main theories of learning differences are briefly summarized below, and then explained in greater detail in a later section.

Gardner (1999) describes learning differences through his multiple intelligences theory. According to his theory, humans have at least eight ways of being intelligent or talented about the world: verbal/linguistic, logical/mathematical, visual/spatial, musical, naturalistic, interpersonal, intrapersonal, and body/kinesthetic. Hundreds of empirical studies were reviewed in Gardner’s original work, and the theory is open to revision if/when new research indicates the necessity (Gardner, 1999).
Another theory explaining learning differences is brain-compatible instruction, or brain-based instruction (Caine & Caine, 1990; Powell, 2000; McCombs, 2001; Sylwester, 1994; Wolf, 2001). Brain-based theories are built on the idea that brain functions such as memory and recall can be enhanced by appropriate educational strategies. The basic premise is that learning environments need to take into consideration emotions and the brain’s search for meaning, as well as each individual brain’s unique ways of learning.

A third theory, learning styles, is actually a group of many theories. Learning style theories are based on learning preferences and needs, though each theory delineates different preferences and needs. Gardner (1995) describes the concept of style as “a general approach that an individual can apply equally to all content” (p. 202). Though the various learning style theories differ in the number of styles and the basis for describing and measuring them, they all incorporate the idea that individuals have unique needs and unique approaches to the world (Dunn, 2001; “The Dunn and Dunn learning style model,” 2001; Guild, 1994; Sternberg, 1994; Sternberg et al., 1998; Silver et al., 1997).

Understanding the history of inclusion and the demographic and individual learning differences of students makes explicit the broad diversity found within classrooms today. The following section examines current school practices and shows how schools and teachers are, and are not, responding to this diversity.
Public Education: Where We Are

Sameness

“Public education that accepts all comers is a uniquely American vision” (Tomlinson, 2000a, p. 5). All students, regardless of their demographics and abilities, are guaranteed public, K-12 schooling. Many other countries, particularly in Europe and Asia, have extensive testing and tracking procedures to funnel students towards particular schools and careers (Hess, 1999; Snyder, 2000). This country’s attempt to educate all students equally, given the great diversity found in classrooms, often leads to one-size-fits-all instructional methods (Westberg & Archambault, 1997; Tomlinson, 1995; Tomlinson et al., 1997). Though most teachers would disagree with the notion that all students are the same, the sheer diversity in classrooms leads teachers to teach to the middle (Tomlinson, 1995; Tomlinson et al., 1997) because there are few structures in place for acknowledging or addressing student differences. As Tomlinson (1999) notes, “While the rest of the world seized upon progress over the last century, the practice of education remained fairly static” (p. 23), and accommodating student differences has been left up to the individual teachers. Most schools adopt one textbook per grade level, have grade-level standards in place, and assess student growth through standardized tests (Tomlinson, 1999). Even textbooks with enrichment and re-teaching components still operate under the assumption that all students can and should use the same textbook. These methods perpetuate an unconscious practice of seeing all students as the same.
Traditionalism and constructivism

Two general views of education exist, representing opposite ends of a spectrum: traditionalist and constructivist pedagogy. The National Center for Education Statistics (NCES), in a report on school quality, summarized the two views:

Proponents of traditional instruction, such as drill and practice activities in which students work toward skill mastery, suggest that this approach provides teacher-directed control and structure of classroom activities…. Advocates of constructivism, on the other hand, assume that learning occurs as students actively assimilate new information and experiences and construct their own meanings. (Mayer, Mullens & Moore, 2000, p. 26)

Traditionalists believe constructivism lacks rigor, and constructivists believe the traditionalist approach creates passive learners. Similar to other debates in education, such as whole-language and phonics, traditionalist and constructivist pedagogy are at opposite ends of a continuum, though the debate is based on the premise that one of these methods is correct. However, neither method, on its own, is the answer: best practices have elements of both traditionalist and constructivist practices. Currently, the pendulum of education is swinging through the traditionalist sector of the continuum. Thus, traditionalist practices dominate pedagogy in most schools, despite the inconclusive evidence regarding the effectiveness of either practice alone (Mayer et al., 2000).

Coverage

Regardless of the pedagogical approach, most schools attempt to cover a great deal of material in a given year. The fixedness of instruction seems to be “established by the image of a classroom as a place to cover prescribed material” (Tomlinson et al.,
Sizer (1999) notes this is most noticeable in high school, “where coverage is king. Grotesque coverage—Cleopatra to Clinton by April 1, three Shakespeare plays in six weeks, evolution as one of 36 chapters in an eight-pound biology textbook…” (p. 5). Curriculum is characterized by breadth instead of depth.

In addition, schools are structured with the assumption that all children should finish classroom tasks in the same amount of time. A school year is the same length for all learners despite their individual capabilities (Tomlinson, 1999). All students are expected to complete Algebra in one year, regardless of their level of ability in the subject. Students who can pass a pre-test on reading comprehensions skills are still expected to complete all of the assignments (Taylor & Frye, 1988). Traditional education is founded on the notion “that students will learn on demand…. and grounded in the conviction that all students can and will learn the same material at the same time” (Brooks & Brooks, 1999, p. 1). This may explain why Hess (1999) found that “…90% of teachers do not know how to differentiate instruction in mixed-ability settings” (side bar, para. 1).

**Pedagogical focus**

In addition to the focus on coverage within a rigid time frame, curriculum typically focuses on facts and skills removed from meaningful context (Kronberg & York-Barr, 1997; Sylwester, 1994; Caine & Caine, 1995). Mainstream, European American values of independence, analytic thinking, objectivity, and accuracy “…translate into learning experiences focused on competition, information, tests and grades, and linear logic” for most students in the United States (Guild, 1994, p. 3). Drill
and practice worksheets, workbooks, and textbooks are the main instructional materials (Tomlinson, 1999), and students receive whole class, lecture-style teaching (Snyder, 2000), with the teacher determining “…much of what students learn, when they learn it, how they learn it, and how long it takes them” (McCombs, 2001, under “Contextual conditions and schooling,” para. 1). In recent decades, one key reason for this teacher-centeredness has been the goal of preparing for high-stakes, standardized tests. Nationwide, many teachers are taught that their primary goal is to ensure that students cover the curricula necessary to score well on end-of-year assessments (Tomlinson, 1995). These tests are tied to standards based reform in all content areas.

Standards reform efforts

Standards-based reform efforts are designed to improve student performance and, as a result, student learning. The National Assessment of Educational Progress (NAEP) has been the only continuous monitor of student progress over the last thirty years. On their website, their view of education since the 1970s is as follows:

During the 1970s and 1980s, concern for educational achievement prompted a "back to basics" movement followed by a call for learning expectations beyond minimum competency. In the 1990s, the desire that all students attain high levels of academic achievement was expressed through the establishment of challenging national education goals and state academic standards. (Campbell, Hombo, & Mazzeo, 2000, p. xi)

As a result, most schools across the country now have high standards for all students, curriculum and instruction aligned to these standards, assessments used to measure student attainment of the standards, and test results which are viewed as evidence of student learning (Brooks & Brooks, 1999). Some states add rewards for
schools who do well on these tests and sanctions for schools doing poorly. Today, “…standards-based instruction dominates the educational terrain” (Tomlinson, 2000b, p. 1). Some researchers believe that equating lasting student learning with test results is illogical because accountability for achievement on high-stakes tests only holds the profession accountable for high test scores, not learning (Brooks & Brooks). A review of NAEP’s national report for the year 2000 reveals that student test scores have remained fairly consistent during the last 30 years, nationwide (Campbell et al., 2000). Despite fluctuations in teaching methodology, curriculum foci, and pedagogical ideals over the past 30 years, student performance has not radically peaked or dipped.

**Age-based grouping**

Another characteristic of education is the consistent use of age-based grouping of students into grade levels, called age grading. If you are 14, you are in 9th grade. If you are in 7th grade, you learn to write a persuasive essay. All students in 4th grade take the state assessment in May, all 6th graders learn about ancient cultures, and all 8th graders study United States history. Age grading is the consistent norm in public education.

“The metaphor of steps on a ladder dominates: Learning is always to be a sequential act, block building on block” (Sizer, 1999, p. 7). This is especially true for high schools over the last century where students are treated more or less the same, except for those at the carefully defined special margins (Sizer). There are sequential steps within given disciplines, such as mastering the art of writing a paragraph before being expected to master an essay, or perfecting the use of integers in operations before using integers in
algebraic equations. Unfortunately, the requisites of the curricula often override the needs of the learners.

Summary of student diversity

Researchers interested in student diversity question the benefits of standardization and one-size-fits-all instruction, especially when the real goal is deep understanding of concepts, themes, and skills:

Textbooks, standardized tests...teacher education programs, and curriculum programs feed into the belief that there is one best way of understanding, and that there is one best, clearest way of explaining this way of understanding. (Duckworth, 1996, p. xi)

Proponents of brain-based research, multiple intelligences, and learning styles theories believe that academically diverse learners are failed by standardized teaching practices (Reis et al., 1998). Accordingly, “…any educational approach that does not invite us to teach individuals is deeply flawed” (Reis et al., p. 6) and results in loss of human potential.

Differentiating Instruction: A Bridge Theory

An introduction

Originally a response to the inclusion of advanced learners in general education classrooms, differentiating instruction means modifying the content, process, and products of learning based on students’ abilities, interests, and needs. Differentiated instruction is the antithesis of one-size-fits-all instruction, but it fits well with high standards and accountability. If the other learning theories explain why learning
differences exist, differentiated instruction explains how to meet the needs of diverse learners within a heterogeneous setting.

The effectiveness of differentiated instruction has not been rigorously tested in the research. Though many resources exist explaining what differentiated instruction is and how to move toward differentiated practice, most research has focused on whether teachers differentiate instruction for learners with special needs (Moon, Tomlinson, & Callahan, 1995; Westberg & Archamabult, 1997; Willis & Mann, 2000; Tomlinson et al., 1997), how teachers learn to differentiate instruction (Reis & Renzulli, 1992; Troxclair, 2000; Tomlinson et al., 1997), and how schools move towards differentiation (Pettig, 2000; Tomlinson, 1995). Perhaps the lack of research on effectiveness stems from the difficulty of measuring differentiation, partly because there are as many ways to differentiate instruction as there are teachers, and partly because differentiated instruction encompasses multiple theories, each with its own foundation of research and literature. For this reason, before discussing the research examining differentiated instruction, I will first share the research bases for three theories utilized in differentiated practices: multiple intelligences, brain-based instruction, and learning styles.

Research base for learning difference theories

Multiple intelligences. An intelligence, as defined by Gardner (1995), is “…a biological and psychological potential; that potential is capable of being realized to a greater or lesser extent as a consequence of the experiential, cultural, and motivational factors that affect a person” (p. 200). It is a capacity, which may or may not be realized. Individual strengths and weaknesses are explained as strengths and weaknesses within
different intelligences. This view of intelligence gives a broader definition than IQ testing, which only tests two of Gardner’s proposed intelligences. According to Gardner (1995),

…the standard definition of intelligence…narrowly constricts our view, treating a certain form of scholastic performance as if it encompassed the range of human capacities and leading to disdain for those who happen not to be psychometrically bright. Moreover, I reject the distinction between talent and intelligence…what we call “intelligence” in the vernacular is simply a certain set of “talents” in the linguistic and/or logical-mathematical spheres. (p. 204)

Education based on multiple intelligence theory embraces differences and encourages personalization and individualization of instruction.

In the nearly twenty years since Gardner first published his multiple intelligences theory, the idea of a fixed intelligence measurable by an IQ test has changed “…to a more flexible perception of gradual intellectual development dependent on external stimulation” (Powell, 2000, Under “Environments for Learning” para. 1). The applications of multiple intelligences theory to classrooms are as varied as the teachers who use it. It is backed by a rich research base, is supported by studies in “child development, cognitive skills with brain damage, psychometrics, changes in cognition across history and within different cultures, and psychological transfer and generalization” (Silver et al., 1997, p. 23), and is open to revision upon further empirical evidence. In 1987, the Multiple Intelligences Developmental Assessment Scales (MIDAS) were developed to provide a descriptive and quantitative method of describing a person’s multiple intelligences profile (Shearer, 2001). The MIDAS was used in one study to increase students’ intrapersonal understanding and awareness of the multiple
intelligences in an attempt to measure if this knowledge by both students and teachers would have a positive impact on classroom experiences (Shearer). As one student said, “MIDAS connects students with their strengths. Often times when people try to help these kids it ends up crushing them because they focus on the negatives only” (Shearer, Under “Student Profile: Jonathan, the underachiever,” para. 3). The overall impact of the knowledge for both teachers and students was positive, especially for formerly failing students, as indicated by interviews with staff and students and measures of student success (Shearer).

According to Gardner (1995), there are three ways multiple intelligence theory can be used to improve education. First, by cultivating desired capabilities that a particular culture or community feels are important. Second, by approaching a desired concept, subject, or discipline in a variety of ways to ensure student understanding. By spending time on key concepts, generative ideas, and essential questions, every topic can be approached in a variety of ways, like “multiple windows leading to the same room” (Gardner, 1995, p. 207). Third, by personalization of education for all students:

We are not all the same; we do not have the same kinds of minds; education works most effectively for most individuals if these differences in mentation and strengths are taken into account rather than denied or ignored…. the heart of the multiple intelligence perspective…[lies] in taking human differences seriously. (Gardner, 1995, p. 207)

Gardner’s (1995) theory can best be summed by his comment: “Any uniform educational approach is likely to serve only a minority of children” (p. 207). However, using some method of understanding individual differences “makes things a little simpler for us. By chunking the broad range of human abilities into seven [now eight] basic intelligences,
we now have a map for making sense out of the many ways in which children learn, and
a blueprint for ensuring their success in school and in life” (Armstrong, 1994, p. 27).

**Brain research.** Research into how the brain functions and how we learn has
revealed significant findings, though there are disagreements as to how the findings
should be applied to education. Some feel we must wait until all the evidence is in, lest
we incorrectly interpret and apply research. Others feel we are wasting valuable time and
neurons by not applying what we already know. All agree that using brain research in the
classroom is challenging, in that

…we cannot rely exclusively on brain research. People are too complex, indi-
viduals too unique, and contexts too unpredictable. Integrating brain
research with other research and with an adequate model for instruction,
however, can provide educators with a coherent foundation for excellent
teaching. (Caine, 2000, p. 61)

Collective understandings about how the brain works support the importance of
creating schools that are responsive to individual learning needs. One of the basic
findings is that our ability to learn is profoundly influenced by physiological processes
(Caine & Caine, 1990). Student attitudes, emotions, and motivations surrounding
learning and school impact their ability to perform to their full potential (Caine & Caine,
1990). One example is downshifting, which is a physiological reaction to negative
conditions such as threat or fatigue (Caine & Caine, 1990, 1995). Downshifting begins a
process of self-protection which includes a reversion to programmed ways of operating
rather than conscious ways of thinking, a reversion to primitive instinctual behaviors to
preserve personal safety, and a lack of ability to perceive new opportunities or deal with
uncertainty (Caine & Caine, 1990, 1995). The phenomenon of downshifting is supported
by research in the biological bases of memory, stress, anxiety, and creativity (Caine & Caine, 1997). For students, conditions that induce situational downshifting are ones where pre-specified correct outcomes are established by the teacher or other external agent, personal meaning is limited, rewards and/or punishments are externally controlled, time lines are restrictive, and work to be done is relatively unfamiliar with little support available (Caine & Caine, 1997). Such conditions can reduce higher-order thinking, risk taking, and tolerance of ambiguity, which are essential for high-level thinking (Caine & Caine, 1997).

Just as there are conditions that inhibit higher-level thinking behaviors, research on downshifting, as well as emotions and motivation, indicate there are conditions that increase the likelihood of higher-level thinking (Caine & Caine, 1997; McCombs, 2001; Sylwester, 1994). Classrooms exhibiting these conditions make individuals feel safe and provide deeply engaging learning tasks with open-ended outcomes and multiple possible solutions. Personal meaning is maximized, which develops intrinsic motivation and a sense of ownership in the learning process. Learning tasks have relatively open-ended time lines, and flexible scheduling allows for more realistic learning and planning (Caine & Caine, 1997; Powell, 2000; McCombs; Sylwester).

Another finding of brain research is the way our memories are created. Our brains have storage areas for meaningless memories, which are learned best through repetition and rehearsal, and for meaningful memories, which are learned best through experience and context. By utilizing both meaningless and meaningful memory systems, significant learning occurs (Caine & Caine, 1997), which may support integration of
traditional and constructivist teaching methods. Researchers believe that in order to learn anything completely, it must be experienced; ideas and skills (meaningless memories) must be embedded in a variety of experiences (meaningful memories) (Caine & Caine, 1997). Activities that integrate meaningless and meaningful memory systems include projects, field trips, stories, drama, role-playing, games, discussions, physical education, the arts, and real-life problem solving, combined with meta-cognition (Caine & Caine, 1990, 1995, 1997; Wolf, 2001; Powell, 2000). By encouraging strong neural network growth and providing meaningful contexts for memory, these activities capitalize on the brain’s natural tendencies.

Motivation research is the final element of brain-based research reviewed for this study. Almost everything teachers do has a positive or negative influence on student motivation (McCombs, 2001). Often, students who exhibit a lack of motivation are lacking the control, competence, and belonging deemed necessary for self-regulation and motivation to learn (McCombs). Because our educational system currently determines much of what students learn, when they learn it, how they learn it, and how long it takes them, their sense of control and choice are often absent (McCombs). It seems that motivation to learn and self-regulate learning are natural, given situations that are interesting, fun, personally meaningful and relevant, and in a context that supports and encourages personal control (McCombs). For teachers to create such learning environments, changes in thinking and practice are necessary, along with accompanying support for these changes from curriculum and administration (McCombs).
Brain research supports the need for differentiated classrooms in three ways, as summarized by Tomlinson & Kalbfleisch (1998): First, learning environments must feel emotionally safe. Lack of safety causes chemical reactions that cause physiological responses of self-protection and downshifting. Second, students must experience appropriate levels of challenge. One-size-fits-all instruction fails to teach the multiple levels in a classroom, ensuring some students will be over challenged and other students under challenged. Third, brains need to make meaning. We need to teach concepts, and the principles that govern meaning making, within the context of doing rather than absorbing (Tomlinson & Kalbfleisch, 1998). The “principles of brain-based learning strongly suggest the importance of moving away from teacher-dominated classrooms” with inflexible time schedules, where students focus on fact memorization, large quantities of curriculum, and isolated skills (Kronberg & York-Barr, 1997, p. 5).

Learning styles. A basic assumption of learning style theory is that all children can learn, but there is no single approach to instruction that works for all learners (“The Dunn & Dunn learning style model,” 2001). Current learning style models include McCarthy’s 4MAT system (“The Dunn & Dunn learning style model,” 2001), the Dunn and Dunn learning styles model (“The Dunn & Dunn learning style model”), Gregoric’s mediation abilities model (“The Dunn & Dunn learning style model”), Silver, Strong, and Perini’s learning styles model (Silver et al., 1997), Sternberg’s triarchic thinking styles (Sternberg, Torff, & Grigorenko, 1998), and Sternberg’s theory of mental self government (Sternberg, 1994). Most of these theories developed independently of each other, with little recognition of the others, yet all of these theories recognize that learners
have individual differences. Each theory advocates for instruction that is organized to address differences, and each theorizes that increased learning will result. Schools across the country have adopted and implemented these models in a variety of ways.

The 4MAT system is based on brain lateralization and cognitive style theory and identifies individual styles along two continuums of perception and processing. Brain lateralization refers to the fact that the two hemispheres of the brain develop separate capabilities from each other. For example, the centers for speech and language are typically located in Brocca’s area, which is usually in the left hemisphere (Holder, 1995). According to the 4MAT system, learners can fit into four major learning styles: imaginative learners, analytical learners, common sense learners, and dynamic learners. McCarthy recommends 25% of learning time should be devoted to each style. In current practice, only analytic learners get the kind of teaching they need (“The Dunn & Dunn learning style model,” 2001).

The Dunn and Dunn learning styles model is also based on brain lateralization and cognitive style theory, built on the premise that “…each individual has a unique set of biological and developmental characteristics which impact how a person learns” (“The Dunn & Dunn learning style model,” 2001, p. 4). It uses a diagnostic prescriptive approach with a framework of five categories of stimuli preference: environmental, emotional, sociological, physiological, and psychological (“Dunn & Dunn learning style model; Dunn, 2001). Each category has further elements, for a total of “…21 elements that can affect how each person learns new and difficult material” (Dunn, p. 69). Most students are influenced by between 5-14 of the elements (Dunn). Under the category of
sociological preference, which indicates with whom an individual prefers to learn, about 28% of K-12 students prefer learning in a group, 13% prefer learning alone, and 28% prefer learning with a teacher (Dunn). Within the category of processing style, 12% of elementary students are auditory learners, almost 40% are visual learners, and at least one third of high school males are tactual and kinesthetic learners (Dunn).

The Mediation Abilities model theorizes that people approach life tasks using two ability continuums: perceiving tasks, from concrete to abstract, and ordering tasks, from random to sequential. Emphasis is placed on individuals understanding their own style (“The Dunn and Dunn Learning Style Model,” 2001).

Silver, Strong, & Perini’s learning style theory has four categories: mastery style, understanding style, self-expressive style, and interpersonal style. Their research estimates that 35% of students are mastery learners, 18% are understanding learners, 12% are self-expressive learners, and 35% are interpersonal learners (Silver et al., 1997).

Sternberg’s theory of Mental Self–Government has five categories: Functions (legislative, executive, and judicial), Forms (monarchic, hierarchic, oligarchic, and anarchic), Levels (global and local), Scope (internal and external), and Learning (liberal, conservative) (Sternberg, 1994). This theory emphasizes that teachers must accommodate an array of thinking and learning styles, systematically varying teaching and assessment methods to reach every student (Sternberg). Research shows that children who have oligarchic and anarchic styles receive little if any instruction that meets their learning needs in current teaching practices (Sternberg).
According to Sternberg et al., (1998), “human intelligence comprises three main aspects: analytical, creative, and practical” (p. 3). This is the triarchic thinking theory. Triarchic instruction requires students (and their teachers) to use the three different ways of thinking as “ways of encoding information and memories, and it enables students to capitalize on their strengths and to compensate for their weaknesses” (Sternberg et al., p. 3). According to Sternberg et al., all students, every day, should encounter some instruction that is compatible with their strengths, and some instruction that pushes their weaknesses.

Many educators support learning styles approaches, but have had concerns with the conceptual frameworks and theoretical underpinnings of the models. The Dunn & Dunn model has the largest research base of all the theories listed. In order to develop a learning styles framework similar to Dunn and Dunn’s but with a more strongly validated measurement instrument, the National Association of Secondary School Principals (NASSP) conducted research and developed a model with 4 categories and 23 elements (“The Dunn & Dunn learning style model,” 2001). Their instrument, called the Learning Styles Profile, was standardized using a normative sample of 5,000 students, and reliability and validity studies suggest the profile is an improvement over previous instruments (“The Dunn & Dunn learning style model”).

Models of learning styles focus on how different individuals process information across content areas, emphasize thought as a vital component of learning, and recognize the role of cognitive and affective processes in learning, deepening our insights into motivation (Silver et al., 1997). However, “…they may fail to recognize how styles vary
in different content areas and disciplines” (Silver et al., p. 23), and they may be less sensitive to the effects of context in learning. In addition, each theory has a different definition of style, and more research is needed to validate measurement instruments.

Summary of preference or style theories. None of these theories is inherently constructivist or traditionalist. Each could be used to explain either pedagogy or even both. However, in an analysis of the three branches of research, Guild (1997) found that multiple intelligences, brain-based instruction, and learning styles share many characteristics: All are centered on learning and learners, with the teacher and student both acting as reflective practitioners and decision makers; all require a curriculum that has substance, depth, and quality, and all focus on educating the whole person within a context that promotes and celebrates diversity. In addition, all the theories can be utilized via the umbrella theory of differentiated instruction.

Summary of Findings

Based on the information gleaned from current research on inclusion, learning differences, multiple intelligences, brain-based research, learning styles theories, and the impact of academic diversity on student success, our schools need to change. Such a school would need to separate itself from traditional constraints:

A school that resolutely accepts the lively but annoying diversity among its students must break away from many deeply ingrained notions about the keeping of school, from the one best curriculum to the one best test to the one best schedule. Something far more complex and more fluid must take their places. Schools must adapt to the legitimate differences among students, and these adaptations will themselves be in constant flux. (Sizer, 1999, p. 7)
These complex, fluid schools will be safe, nurturing, challenging environments that reduce threat and increase engagement for students at all levels (Caine & Caine, 1990, 1995; Tomlinson et al., 1997; Tomlinson, 1999; Kronberg & York-Barr, 1997) by using a variety of reality-based, relevant, engaging learning experiences that accommodate a variety of learners and learning styles and have substance, depth, and quality (Powell, 2000; “The Dunn & Dunn learning style model,” 2001; Guild, 1997; Willis & Mann, 2000; Tomlinson et al.; Kronberg & York-Barr; Brooks & Brooks, 1999; Westberg & Archambault, 1997). They will take diversity seriously by promoting, accepting, and educating about differences in ways of thinking (Guild, 1997; Westberg & Archambault; Gardner, 1995; King-Sears, 1997). This includes focusing on student strengths first by educating students, parents, and teachers about legitimate differences (Shearer, 2001; Kronberg & York-Barr). The curriculum in these schools will be organized around key principles, concepts, categories, and understandings (Tomlinson, 1999; Tomlinson et al.; Brooks & Brooks) and standardized tests will be changed to reflect this emphasis so teachers will not be caught in a double bind (Tomlinson, 1995). Instead, assessment will be used as a tool to measure and promote individual growth and to establish progress that is embedded in daily instruction (Tomlinson et al.; Kronberg & York-Barr; Brooks & Brooks; Sizer; King-Sears). These schools will emphasize the education of the whole person, including social, emotional, physical, and cognitive realms (Guild, 1997; Brooks & Brooks). Two strategies that will help with this goal are the use of metacognitive activities that encourage students to talk and reflect on emotions, motivation, and real learning (Sylwester, 1994; Wang et al., 1997; Kronberg & York-
Barr; Brooks & Brooks); and the use of flexible, heterogeneous groupings that allow students to learn, work, and play with peers who are different (King-Sears; Kronberg & York-Barr). Such a classroom would take into account student differences and knowledge gained from multiple intelligences, brain research, and learning styles, making sure students learn what they need to learn, at their level.

Differentiated Instruction

Roots of differentiation

Though creating the learning environment described above may seem a daunting task, having a framework for thinking about learning and teaching in this way can help. Differentiated instruction is such a framework: “Differentiated instruction is a teaching philosophy based on the premise that teachers should adapt instruction to student differences…. teachers should modify their instruction to meet students’ varying readiness levels, learning preferences, and interests” (Willis & Mann, 2000, p. 1). Differentiated instruction first began as a way of addressing the needs of academically advanced learners in heterogeneous settings (Westberg & Archambault, 1997) using compacting, independent study, and mentoring, and then was adapted by special educators to modify curriculum for all students with special needs using multi-age groupings, flexible groupings, and individualized instruction as well as accommodation, adaptation, parallel instruction, and overlapping instruction (King-Sears, 1997). With the increasing diversity in our schools, differentiated instruction is being looked at as a possible answer for meeting a broad range of needs.
**What is differentiation?**

In the process of addressing the needs of diverse learners, learning how to organize a wide variety of learning options and to structure learning activities that promote deep understanding can be difficult if not overwhelming. Differentiated instruction is complex to use and thus difficult to promote in schools, because moving towards differentiated instruction is a long-term change process. It is not a strategy; rather, “…it is a total way of thinking about learners, teaching, and learning. It is, in essence, growth towards professional expertise because it is founded on best-practice instruction” (Tomlinson, 2000a, p. 5). Expert teachers “…understand the pedagogical ramifications of academic diversity, and have the skills to respond to it appropriately” (Tomlinson et al., 1997, p. 270).

Differentiated instruction is a method for developing curriculum for successful learning and instruction, not a method of lesson planning (Gartin, Murdick, Imbeau, & Perner, 2002). It is a way of being proactive, rather than reactive, about student differences. A core set of beliefs underlies differentiated instruction: Students differ in their readiness to learn; students differ in their readiness significantly enough to impact their learning; students learn best with high expectations and support from adults; students learn best when material is connected to their interests and experiences; students learn best in a safe community; and schools must maximize each student’s capacity (Gartin et al.). These beliefs are echoed in the theories of multiple intelligences, brain-based instruction, and learning styles, as well as the findings of research on inclusion. Differentiated instruction is proactive, qualitative in nature, rooted in assessment, student
centered, and organic (Tomlinson, 2001). It provides multiple approaches to content, process, and product, through a blend of whole-class, small group, and individual instruction (Tomlinson, 2001). Differentiated instruction is not the individualized instruction of the 1970s, is not chaotic, is not another way to provide homogeneous grouping, and is not just adjusting the same lesson for everyone (Tomlinson, 2001). Differentiated instruction depends on having crystal clear ideas about what we want students to learn: the concepts, principles, ideas, and skills students will need and use in life (Tomlinson, 1999).

How does differentiation begin?

Differentiated instruction is, to some, the new buzzword in education. As such, the number of resources available for teachers is growing, nearly tripling in the last two years. There are resources for teachers of students with advanced needs (Winebrenner, 2001), resources for teachers of students with learning disabilities (Bender, 2002; Gartin et al., 2002; Lenz & Schumaker, 1999), and resources explaining the philosophy and basic techniques for all students (Tomlinson, 1999; Tomlinson, 2001; Heacox, 2002). Reading these resources can make differentiating instruction seem like an inordinately complex and difficult task. However, Heacox (2002) succinctly and clearly explains how to structure differentiation around multiple intelligence theory and Bloom’s taxonomy. Heacox’s ideas provide the necessary framework. Another helpful resource for creating a strong curriculum from which to differentiate is Understanding by Design.

Differentiated instruction entails creating a classroom environment that embraces diversity and employs the strategies outlined in brain-based research. The classroom
environment includes physical aspects as well as interpersonal and affective aspects. Physical aspects include comfortable seating, good light, adequate air circulation, room to move, and places to store materials. Interpersonal and affective aspects include feelings of safety and belongingness as well as strategies for solving problems and improving communication. Perhaps, as Bender (2002) explains, the most important element of the environment is

…the relationship between a teacher and a pupil…. students must be absolutely convinced that the teachers care for them…. [because] only from that caring position will teachers be effective in motivating students to involve themselves in their learning…. only from that caring perspective will teachers be motivated to implement the strategies required by the differentiated instruction concept. (p. xiii)

After considering the environment, the next step entails modifying content (what students learn), process (how students learn), and product (how students show what they learn) based on student needs. Differentiated instruction requires rich content based on core principles and understandings; engaging, meaningful processes of learning; and interesting, purposeful products. Everything is connected to the core, without filler or seatwork, because students are respected as learners. Modifications mean students are learning what they need to learn in order to meet the stated goals. Students who need more time get it, and students who have mastered all or part of the content are offered meaningful options to enrich and further their understandings and skills. Modification begins with identifying the core beliefs, understandings, and skills that all students will learn, and then comparing that list to the needs and abilities of the students in a given class, as determined through assessments, teacher observations, and parent/teacher
interviews. Content, process, and product are modified, as needed, to give the best fit between each student and the learning goals.

**Differentiation and standards**

Though differentiated instruction is opposed to standardized teaching practices, it can embrace high-quality standards (Tomlinson, 2000b). A standardized curriculum indicates what we teach, whereas differentiated instruction indicates how to teach it. Differentiated instruction and standards only become incongruent when teachers are “admonished to attend to student differences, [while ensuring] that every student becomes competent in the same subject matter and can demonstrate the competencies on an assessment that is differentiated neither in form nor in time limits” (Tomlinson, 2000b, p. 2). Standards should support, not erode appropriately responsive instruction.

**How do teachers and schools move towards differentiation?**

Differentiated instruction clearly addresses the diversity of our classrooms and serves to integrate the traditionalist and constructivist branches of pedagogy using brain-based learning strategies and the theories of multiple intelligences and learning styles to diagnose student differences and provide a variety of learning options and levels. Why aren’t more classrooms differentiated? “Teaching is hard, and teaching well is fiercely so” (Tomlinson, 2000b, p. 6). Research indicates only a small number of teachers offer differentiated instruction in their classrooms (Reis et al., 1998; Tomlinson et al., 1997) and that most teachers who begin implementing differentiated instruction eventually abandon it under pressure to cover curriculum in a prescribed time with a goal of performance on standardized tests (Kapusnick & Hauslein, 2001). Though implementing
differentiated instruction indicates movement towards professional expertise, studies indicate that not all teachers automatically become expert teachers (Tomlinson et al., 1997).

Beginning teachers have few models of classrooms where student diversity is addressed, and novice teachers who enter the profession with ideas of addressing learner differences usually change to one-size-fits-all instructional practices due to pressure and lack of support (Tomlinson et al., 1997). “Neither limited direct instruction, nor out of class coached reflection during student teaching [seems to be] enough to break the hold of coverage and sameness on instruction” (Tomlinson et al., p. 280). The seeds of differentiated instruction must be sowed during teacher preparation in college, supported during teacher training, and encouraged by administration and colleagues. By keeping the need to address student differences in the forefront, teachers will gradually move towards differentiated instruction as they become ready in their practices.

In one study following a school beginning to implement differentiated instruction, the competing needs of student diversity and standardized tests created a contradiction for teachers (Tomlinson et al., 1997). In addition, because the mandate for change came from outside the teachers, buy-in took more time (Tomlinson et al.). In another study examining the strategy of compacting curriculum for students with advanced learning needs, teachers who received training and peer coaching were able to compact 40-50% of traditional classroom material for targeted students without a change in the students’
achievement test scores (Reis & Renzulli, 1992). Previous studies indicated that students received less than 20% compacting without teacher training and peer coaching (Reis et al., 1998).

Training, peer support, and administrative support are needed to help teachers and schools move towards differentiated practices. In addition, a long-term investment must be made, because differentiated instruction is not a program that can be adopted during a year. Rather, it is an evolutionary process. Tomlinson estimates it can take up to 10 years to fully embrace and implement differentiated instruction (Hess, 1999). With new fads coming along every year or two, it can be difficult for teachers to engage with the concept of differentiated instruction, especially because it requires so much from teachers. For this reason, several studies have examined the process of change for teachers and schools.

**Change process**

The change process is difficult, at best. Researchers examining schools involved in change processes find that “the dance between letting go of old beliefs and taking on a new way of thinking and perceiving is delicate and complex” (Caine & Caine, 1995, p. 47). Many of the changes in education are occurring at administrative, state, and national levels (Wang et al., 1997), but, “Educational improvement is not accomplished through administrative or legislative mandate. It is accomplished through attention to the complicated, idiosyncratic, often paradoxical, and difficult to measure nature of learning” (Brooks & Brooks, 1999, p. 2). In addition, “Considerable time and combined efforts with teachers and parents” are necessary for successful shifts in instruction (Kapusnick &
Hauslein, 2001, p. 159). Teachers, who must actually change the instructional practices they use, must be involved in the change process, rather than responding to mandated change from higher authorities.

In order to develop a classroom that acknowledges and appropriately addresses broad academic diversity among students, older and more traditional pictures of schooling must give way to images built on a contemporary understanding of how students learn. Developing classrooms [that are] student-centered and in which students [work] in a variety of ways to make sense of and apply key concepts [calls] for major changes (Tomlinson, 1995, p. 82).

Perhaps an easier approach is to create new schools based on the cumulative knowledge of research and practice. Though the uncertainty involved in change would still be in place for teachers, parents, and students, as well as administrators, perhaps the relative freedom from the status quo, or previous performance, would improve the buy-in and eventual success of such an endeavor.

Areas for Further Research

There are several noticeable gaps in the literature regarding student diversity and differentiated instruction. First, as mentioned before, though the theory of differentiated instruction itself does not yet have a strong research base, the sub theories feeding into differentiated instruction do have rich research bases, providing strong supports for the bridge of differentiation. Do differentiated instructional practices increase learning for students? Researchers point to the need for further studies on the long-term learning
impacts of differentiated and non-differentiated classrooms on academically diverse learners in heterogeneous and homogeneous classroom settings (Tomlinson, 1995).

Second, a comparison of multiple intelligences theory, brain-based instruction, and learning style theory is needed to examine whether the theories impact learner outcomes in different or similar ways. Is it that any teaching practice that identifies and accommodates learner differences increases student learning, or do certain practices result in more or less benefits?

Third, the comments of parents and students have been used to support the need for change, but they have not been used as the main focus of a study. What are parent and student perceptions of diversity? How do they view the change process? What, if any, impacts do differentiated practices have on parent and student perceptions of school and learning? Do they recognize and appreciate differentiation as it relates to their learning experience?

This qualitative case study followed ten middle school students and their parents at a new charter school site designed to meet diverse student needs through differentiated instructional practices. Data on student thinking, parent perceptions, and teacher reflection were used to examine the question, “How do students and parents respond to a classroom implementing differentiated instructional practices?” The study investigated three sub-questions: Why did these students and parents choose alternative education?; What, if anything, is different about this school?; and, What, if any, impacts do those differences have on their learning throughout the year?
Data collection methods included interviews with students and parents, reflection and observations by colleagues, and my own anecdotal records of observations and reflections throughout the year. The next chapter explains the methods of this study in further detail.
SETTING AND METHODS

The Setting

The school

During the 2002-2003 school year, I investigated the student and parent perceptions of the differentiated instructional practices offered in my 6-8th grade charter school: a one classroom, one teacher program. The ten families that enrolled students in this charter school were a self-selected group who sought out and chose an alternative program because they needed an alternative to traditional public middle schools, sought a more challenging learning environment, wanted a more supportive academic environment for students with learning disabilities, and/or sought a middle ground between home schooling and public schooling.

The charter school was located in a large house that was converted to a day-care facility before becoming the school. In the building, there was a large room that served as the main classroom, a full kitchen, a dining area off the kitchen which became one student’s learning area, a long room which became the library and computer lab, and a small room off a hall that became the teacher’s office. There was a single bathroom with one toilet. Behind the main classroom was a paved area, and on the other side of the paved area was another classroom area that became the art room. Inside this building there was a large main room, a tiny, closet-sized room off to the right of the main room, and a back room area with a sink and painting easels. Surrounding the classroom was a
field and play area covered with wood chips. The school was set back about two car lengths from a busy road. Even though the buildings were no longer used as a day-care facility, damp or rainy weather brought out a faint odor of babies and all that comes with them. Our main classroom building lacked a true gathering area where we could all meet comfortably and work. Normally, after getting instructions for a learning period, students would spread out into the adjoining areas to work more comfortably. The school was easy to heat and had adequate lighting.

The teacher-researcher

During this study, I acted as a teacher-researcher. I was 35 years old at the time, in my 11th year of teaching. I earned my teaching credential in 1992, taught for seven years in public schools, worked as a private tutor for two years, and taught independent study for one year before starting this school. I started this school to offer an alternative for students, like my tutoring clients, who were struggling with the curriculum and pace in their traditional middle-school classes. By offering a mixed-age middle school, where students could spend three years working with other students who were at, below, and above their own level, I hoped to provide a safe place for learning where students, teachers, and other adults could develop deep relationships and invest in their learning. By imposing a self-set limit of 15 students, I felt it would be easier to communicate effectively with my students’ families, and it would be more possible to form a strong learning community with my students. I believed school should help develop a lifelong love of learning in all students, regardless of their background, learning style, experience, ability, and interest.
The students and parents

There were ten students in my charter school classroom during the year of this study. Six families came to the school with no prior interaction with me, while four families knew me from previous academic environments, including tutoring, teaching, and community writing programs I offered. Within this group of ten students, there were three students with Individual Education Plans for learning disabilities, four students who qualified for Title I support, and two students who qualified for Gifted and Talented Education. Reading levels ranged from 2nd grade through 10th grade, mathematics computation levels ranged from long multiplication and division up to pre-Algebra. Four students lived with both of their birth parents, six students lived with one birth parent; two students had more than one household. Regarding primary ethnicity, two students identified themselves as Native American, and eight students identified themselves as European American. For socioeconomic status, as determined by teacher observations, there were four students at or below the poverty level and six students within the middle class level. All students spoke English as their first language. Half way through the school year, one student transferred back into a traditional public school, dropping our numbers to nine students. Since the interviews were conducted at the end of the school year, most students in their interviews referred to “nine” students in our classroom.

Of the original ten students, eight students agreed to be interviewed. Of those eight students, six of their parents agreed to be interviewed. A brief outline of each student and parent is listed below. During the interview process, each student and parent selected a pseudonym for use in this thesis.
Dale. Dale was a 6th-grade student. I worked with him as a tutor for two years before he enrolled in my school. He was bright, a problem solver, and a fix-it person. He learned best through problem solving, discussion/reading, and hands-on activities. He had dyslexia, which made reading and writing difficult. His family chose this school because his previous school environments had not adequately challenged his intellect while supporting his need to compensate for his dyslexia. He came to school clean and well dressed in casual work clothes. He was focused and purposeful in class, but knew how to joke around and have fun. He did not tolerate other students messing around or wasting class time. He connected well with individuals, equally well with adults and peers, and enjoyed talking with adults, and discussing reasons behind why people do things.

Dale’s parents declined the invitation to interview.

Amy. Amy was a 6th-grade student. I worked with her in an academic remediation program for a year, and then worked with her as a tutor for a year before she enrolled in the school. She learned best through motor movement and visuals. She needed extra time to learn new information, and had performance anxiety that showed up during testing situations and performance tasks required soon after a skill was taught. She chose this school because her family was concerned that she would not learn as much in their local middle school. Amy was fairly typical for a 6th-grade student, with interests in music, popular TV shows, make-up, and social activities. She came to school dressed neatly and nicely. A big concern for Amy was making friends because she left her long-time best friends in order to come to this school. It took her a few months to settle in and
feel comfortable. In addition, she experienced peer pressure from her friends who were attending the middle school, in that they teased her for not being in the same place they were in math. She was concerned that she would be behind when she got to high school. By the end of the year she was convinced that she was making better progress than her peers because she understood what she was doing in math.

**Amy’s Parent: Bert.** Bert was a parent who attended traditional public schools and had an overall positive recollection of her experiences. She had been highly involved with Amy’s education. Amy had positive experiences up through 3rd grade, at which time Bert was told she should be held back, due to her STAR test scores. For the next three years, Amy received extra help after school, including tutoring, which was where I met the family. After seeing her older son go through the local middle school and then struggle tremendously in high school, Bert was concerned about her daughter’s ability to succeed in the same middle school. After looking at several options, including Catholic school, Bert chose to enroll Amy in my school based on their previous experience with me as a tutor and their feeling that I would address Amy’s individual learning needs.

**Catfish.** Catfish was a 6th-grade student. I met her briefly the year before, and her independent study teacher recommended that she attend my program. She learned best through discussion, writing, and teaching others. She needed extra time for learning, and needed repetition of information and instructions. Her family chose this school because she was not getting her learning needs met to their satisfaction in their public school. She spent her 5th grade year working at home on independent study. Catfish came to school dressed neatly, usually in jeans and a shirt. She was working on independent study for
mathematics and reading for most of the year to provide some more intensive study. Forming solid friendships was extremely important for her, and having an uncommunicative former friend in class caused some social strife for Catfish. In class she was quiet, focused, and purposeful. She wanted to do well and tried her best. Her confidence was low, as well as her tenacity. However, her spirit and strength as an individual, especially in social situations, were quite strong.

Catfish’s parent: Caroline. Caroline was a parent who attended traditional public schools. She started receiving extra help in math through a pullout program in 1st grade, and remembers feeling singled out and feeling dumber than the other kids. In 5th grade, her school implemented a form of tracking where students were ability grouped, and she was placed in a group that was “not as bright” as the others, and was not challenged academically. She worked hard to overcome this labeling in high school and did well, earning A’s and B’s. She was highly involved with Catfish’s education, again making specific choices to ensure that her daughter’s needs were being met. Her daughter’s K-1 years were positive years, but when they moved in 2nd grade, Caroline was not able to select a teacher who connected well with Catfish, so the year wasn’t as positive or productive. In 3rd grade, her daughter’s reading difficulties were noticed, and Catfish entered the Individualized Education Plan (IEP) process. In 4th grade, after moving back to the school she started in, Catfish started receiving extra help in reading and math through a pullout program. The pullout program caused problems for her academically and emotionally. So in Catfish’s 5th-grade year, Caroline began home schooling her. This was extremely successful and gave her daughter the time and space she needed to work
on her own learning. Her enrollment in my school was based on Catfish’s need for more social stimulation and increased academics within a structured, safe environment that offered the flexibility of doing some home schooling.

Paul. Paul was a 7th-grade student. He came to my school during the 5th week of school due to safety issues at his local middle school. He learned best through visuals, intrapersonal work, and motor movement. He needed repetition of directions, structure, and a safe place to be. His family chose this school because it was, in their opinion, the only acceptable alternative they had to the local public middle school. Paul came to school dressed neatly but eccentrically. He often wore punk style clothes, experimented freely with his hair color and style, and wore a diverse range of shoes. His focus on schoolwork was low: just enough to get by. His focus on social issues was quiet high, perhaps the most important thing for him. Paul’s parents were divorced, and he spent weekends with his dad and weekdays with his mom and step-dad. His behavior could be erratic, swinging from highly interested and motivated one day, to extremely agitated and uncooperative the next day. As a result, his behavior could and did have a negative impact on the learning environment. However, he was well liked by the other students and was the impetus for many creative projects and ideas. Paul originally wanted to interview, signed the informed consent, but scheduling would not permit it. His parent declined the invitation to interview.

Smiegal. Smiegal was a 7th-grade student. I knew her mother through other educational situations, and when she found out I had opened my school, her daughter came to visit and never left. She learned best through intrapersonal work, reading and
writing, and visuals. She needed a quiet place to learn, challenging activities within a successful environment, and an available adult for questions. She tended to be highly self-directed. Her family chose to enroll in this school because they wanted her to have the social opportunities of a school as well as the personalized curriculum of a small school. Smiegel dressed casually, usually in jeans and a T-shirt or sweater. Though her clothes and behavior could be rather tomboyish, she enjoyed using make-up and experimenting with her hair. Smiegel tended to connect more with adults than her peers, but she had strong relationships with both adults and peers. Despite quiet, calm focus, it often seemed like she was holding back and not fully applying herself, an observation her parents and I discussed during conferences. She was a gifted writer and voracious reader.

Smiegel’s parent: River. River was a parent who attended traditional public schools. Her first few years were in an experimental open-classroom where 1-3rd grades were all together with three teachers. That experience was extremely positive. When her family moved, her educational experiences were not as positive, but she still placed a high value on education and eventually became a teacher herself. She was highly involved in Smiegel’s education. Smiegel started out in public schools, was home-schooled for her 5th-grade year, and attended a small charter school for her 6th-grade year. Her enrollment in my school was based on Smiegel’s need for a more age-appropriate peer group, a challenging academic curriculum and a supportive environment.

White Wolf. White Wolf was a 7th-grade student. I worked with her on independent study for the second half of her 6th-grade year. She learned best with extra time for processing new information, visuals, teaching others, and organized, orderly
instruction. She struggled with organizing her environment and learning time. She came with a negative view of herself as a learner, especially in mathematics and writing. Her family chose to enroll her in my school because we had connected well during her independent study, and they wanted her to be in a positive social environment. White Wolf dressed neatly and tended to prefer vintage clothing and jeans. She kept her hair short and out of her face. She tended to be quiet during learning time, but exuberant and playful during social times. White Wolf was a sensitive barometer of how our class was doing, as a whole, in that she picked up on when people were upset or out of sorts.

**White Wolf’s parent: Louise.** Louise was a parent who attended traditional public schools. She enjoyed her early years, but changing schools in the later elementary years, combined with a diagnosis of learning disabilities, made her later years more difficult both socially and academically. She had been highly involved in White Wolf’s education. For her first three years of school, White Wolf attended a private school with multi-grade classrooms. This was a thriving educational setting. When they moved, White Wolf got bumped up to 3\textsuperscript{rd} grade because she tested at the 3\textsuperscript{rd} grade level. As a result, she was 1.5 years younger than most of her classmates, but she was academically ready for 3\textsuperscript{rd}-grade material. However, Louise’s daughter slowly fell behind, until she was in danger of being held back in her 7\textsuperscript{th}-grade year. In the middle of White Wolf’s 7\textsuperscript{th}-grade year, after switching schools twice, Louise began home schooling her daughter and re-graded her to 6\textsuperscript{th} grade; this is when I started working with their family as their home schooling supervising teacher. Their decision to enroll in my school was based on
the connection we made during home schooling and White Wolf’s need for an academically stimulating environment in a safe, supportive setting.

**Monica.** Monica was a 7th-grade student. I met her and her mother during the summer when they were looking for an appropriate environment for her 7th- and 8th-grade years. She learned best with challenging curriculum, clear directions, ready access to answers to questions, motor movement, reading/writing, and interpersonal work. She was ready to be challenged, and was interested in completing her 7th and 8th grade years during one year. Her family chose to enroll her in my school because they felt I would offer a challenging program with ample time for writing and the visual/performing arts, while also being able to connect with Monica. Monica dressed fashionably in the style current with jr. high/high-school students. She was extremely academically motivated, but also enjoyed goofing off and playing with her peers. Monica was concerned with peer interactions at first, thinking that she wouldn’t connect with anyone, but found herself connecting with and enjoying her diverse group of classmates. She was a leader and a positive emotional and academic force in our community.

**Monica’s parent: Jill.** Jill was a parent who attended traditional public schools, earned high grades, but didn’t feel like she really got a good education. As a result, she was highly involved in Monica’s educational experiences from the beginning. Monica attended private schools until she entered 3rd grade. After attending public school for two years, Jill home-schooled her daughter for a year before sending her to a small, rural public school. Each change in schooling was based on a need Monica had that was not being met by the current school: academic challenge, social stimulation, well-rounded
curriculum, and teachers who she connected with. Their enrollment in my school was based on Monica’s need for a mentally challenging curriculum and a teacher who was well rounded and passionate about learning.

**Bobby.** Bobby was a 7th-grade student. I met her the previous year, and we discussed my school. Her family wanted to enroll, but then decided against it. She had been home-schooled for many years, and was going to continue home-schooling. Then, during the 6th week of school, they contacted me and wished to enroll because they had been hearing such positive reports from another student’s family. She learned best through motor movement, visuals, reading/writing, and discussion. She struggled with interpersonal issues and communication. Her family decided to enroll her in my school because they were seeking social opportunities as well as more challenging curriculum while they were in the middle of moving. Bobby dressed in casual, ethnic-flavored clothes, and often wore her hair in two braids or one. She was highly creative and enjoyed poring hours into artistic projects. Despite being a strong student and a leader in social situations, and being outspoken and secure in her opinions and beliefs, Bobby was also insecure and overly concerned with what her friends thought about her and about other people. This led to several conflicts between students when she would side with one person or snub another. Of all the students, Bobby’s behavior was the most typical of a pre-adolescent child.

Bobby’s parents declined the invitation to interview.

**Bob.** Bob was an 8th-grade student. He came to my school during the 5th week of school, seeking a safer learning environment than his current middle school. He
learned best with individualized instruction, flexible pacing, clear instructions, intrapersonal work, and visual instruction. He struggled with organization, writing, and communication. Bob dressed in neat button-type plaid or checkered shirts and jeans or corduroys. Seeing him with his tennis shoes on was a rare event, as he often discarded them throughout the day (especially inside). With many personal issues, Bob’s safety and security were the main issues he worked on during the year. He struggled with communicating his feelings and needs to his teacher and his peers. Bob had migraines, which made him sleepy or unable to focus on learning. These would occur with frequency for a week, and then not occur for a couple weeks’ time. As a result, he was constantly playing catch-up: trying to figure out what we were doing and where we were. Bob created many games and activities the class enjoyed during break times.

Bob’s parent: Anne. Anne was a parent who attended regular public school for elementary school, and a private academy for high school. She had a positive experience in school, did well, and felt she learned from her experiences. She has been highly involved in her child, Bob’s, education. Bob struggled in school from the beginning, and entered into the IEP process during his elementary years. Despite receiving the extra help through resource teachers, he continued to struggle, especially with interpersonal relationships. During middle school, Bob experience a lot of teasing and being picked on due to his size and differences. As a result, in the beginning of his last year of middle school, Anne chose to enroll him in my school to get away from the bullies and social/emotional issues after an extremely negative incident on the school campus.
Bob’s significant adult: Right Said Fred. Right Said Fred was a significant adult in Bob’s life who was present during Anne’s interview. He attended a Waldorf School for his elementary years, one focused on the arts and exploratory experiences. He was a strong support person for Bob, and helped him with homework. Though Right Said Fred did not complete an entire interview, he had important insights to share regarding Bob’s attitude and emotions surrounding school and learning.

Demographics

After all the interviews were completed, there were eight student interviews, and six parent interviews. (See table 1 for demographics.) From the class of ten students, two students’ parents did not get interviewed, one student left our school before the interviews, and one student did not interview. For one parent interview, the mom and her partner came, and he contributed to the interview; however, he wasn’t counted in the tally of parents interviewed because his contributions were limited to only two questions.

<table>
<thead>
<tr>
<th>8 Students Interviewed</th>
<th>7 Parents Interviewed</th>
</tr>
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<tbody>
<tr>
<td>Three 6th-grade students</td>
<td>Four 7th-grade students</td>
</tr>
<tr>
<td>2 girls, 1 boy</td>
<td>4 girls</td>
</tr>
<tr>
<td>Two parents of 6th graders</td>
<td>Three parents of 7th graders</td>
</tr>
<tr>
<td>2 moms</td>
<td>3 moms</td>
</tr>
</tbody>
</table>

Table 1: Student/Parent Demographics
Methods

After working with my students and families for half a school year, I designed an informed consent form (Appendix B). I distributed it to my students and their families. At the same time, I developed interview questions and interview protocols for student interviews (Appendix C) and parent interviews (Appendix D) based on my three thesis questions: Why did these students and parents choose alternative education?; What, if anything, is different about this school?; and, What, if any, impacts do those differences have on their learning throughout the year? At this time I applied for and received IRB approval for my research. Approval # 02-175.

After giving students and families a week to review the informed consent, I contacted each parent to discuss the informed consent form, explain the process orally, and answer questions. One parent wished to see questions before giving consent to be interviewed. I sent her a copy of the questions, and she agreed to be interviewed, but I was concerned that this added a variable to the process, because no other parents previewed questions. However, when I transcribed her interview, it did not seem like she had rehearsed answers. In fact, she mentioned that after reading the questions, she realized that she had things she wanted to say, and didn’t worry about the interview any more.

In the end, six parents and eight students agreed to be interviewed. I created a database of student/parent names and interview numbers. I labeled the tapes “Student Interview” or “Parent Interview” with the numbers one through eight. In this way,
students and parents from the same family had the same number, to help with connecting
data later.

The interviewers

Two interviewers conducted the interviews. One interviewer, “Alice,” was a
master’s program colleague. She had spent time with my students while working on a
project for a graduate class, so she was familiar with our school, and the students felt
comfortable with her. The other interviewer, “Fran,” worked in our classroom as an aide
two days a week, so she also was familiar with our school, and the students and parents
were comfortable with her. Originally, Alice was going to do all of the student
interviews and Fran was going to conduct all the parent interviews. However, Alice had
scheduling conflicts, and Fran had to conduct some of the student interviews. I had
concerns that having different interviewers would impact the data, especially because
each interviewer had a distinctly different style. Fran would only ask the questions as
written, adding some probing questions, whereas Alice would ask many questions which
branched off the main questions, and would often go on tangents with the interviewees.

Another point of difference was that Fran was comfortable with interviewees not
having an answer, whereas Alice would keep asking questions, looking for some type of
answer. Though Alice’s style worked for many students, one student became
uncomfortable and reluctant to communicate during the last portion of the interview. Her
mother indicated the student expressed feelings of “getting the answers wrong” due to the
extensive probing. After discussing the matter with both the parent and the student, I
decided to use the interview as conducted, without finishing the last section of questions.
I was not able to get her responses to the questions about how the differences of this school may have impacted her academic, social, and emotional learning and her closing thoughts on why she decided to attend the school and how it worked out.

Before conducting the interviews, Alice and Fran examined the protocol, and one student examined the questions. They gave feedback, asked questions, and helped improve the quality of the interview protocol and questions. Again, having one student know the questions ahead of time made me concerned about the validity of the data. Would her answers be different because she had gone over the questions? She made suggestions that we actually used, such as rephrasing some questions into more kid-friendly language and expanding on the explanation of a few questions. These benefits seemed to outweigh the potential risks of having her pre-examine the questions.

After reviewing the protocols, Alice and Fran asked for my input on how to prompt interviewees without interfering with my data. I developed a sheet of sample prompting questions and prompting guidelines for their use (Appendix H).

Conducting the interviews

Once the interview protocols and questions were finalized, I created a list of student differences (Appendix E) and a list of types of learning (Appendix F) for use during interviews. The list of student differences was used to help interviewees understand and visualize specific questions about how they are different as learners. The list of types of learning was used to help interviewees understand how I was defining the different types of learning (Academic, Social, Emotional, Attitudinal). I summarized the
list of student differences from my literature review, and I summarized the four types of learning from Carol Ann Tomlinson’s work (Tomlinson, 1999 & 2001).

I organized baskets for both interviewers with copies of the interview protocol, blank audiotapes, copies of handouts, pens, and tape recorders. Fran scheduled interviews with parents at their chosen place and time. Alice provided me with a schedule of available times for conducting student interviews during class time. At that time it became evident that she would not have the time to conduct all 8 interviews. Therefore, Fran conducted two student interviews.

Transcripts

Interviews were conducted between May 15, 2003, and July 30, 2003. Upon completion of each interview, the interviewer would hand me the tape and interview protocol with hand-written notes. I took these materials home and placed them in my locked file drawer. I transcribed interviews as they came in, by using the tape recorder and my computer. After transcribing, formatting, and double-checking the accuracy of the transcriptions, I delivered the transcriptions to the interviewees for their approval and clarifications. Due to poor quality of a few tapes, there were sections that were hard to discern. Any questionable areas I highlighted in yellow, and then attached a letter (Appendix G) explaining the transcription process and requesting participants’ assistance. I also included a stamped, self-addressed envelope for returning the transcripts. One hundred percent of the transcriptions were returned. Once all transcripts were returned, I made any necessary corrections on the original transcripts and retyped them. The revised transcripts were added to the files stored in my locked file drawer.
When I began my analysis, I looked for common themes throughout the interviews, and began color-coding responses that fit into these themes. To count as a theme, the topic or issue needed to come up in more than four interviews, four being half of the student interviews and two-thirds of the parent interviews, or approximately one-quarter of the interviews. I looked for themes among student interviews and among parent interviews. In the end, the themes that emerged were common across both student and parent interviews. I also looked for connections between parents and students, such as if they indicated the same reasons for attending the school.
ANALYSIS AND RESULTS

I developed my interview questions to find out why the students and parents from my school chose alternative education; what, if anything, was different about this school; and, what, if any, impacts those differences had on their learning throughout the year. As a point of comparison, I will also provide my perceptions of one student who chose to leave the school mid-year and discuss whether students and/or parents sometimes choose an alternative school with unsuccessful results. Before discussing the first question, I will discuss the potential limits to the validity of the results.

Limits

Limits to the validity of this study include the small sample size, the self-selected nature of the sample, and the relationship between the teacher-researcher and the students/parents. With a sample size of fourteen, it is difficult to tell how applicable the results are to the general population of students and parents attending public schools and charter schools. In addition, students and parents chose to attend this school, and as a result, they are a select group and limit the validity of the study. They had reasons to choose an alternative school, and thus their perception of traditional public schools may be skewed. Finally, another limit is the impact that the relationship between the teacher-researcher and the students/parents may have had on the content of the interviews. Although two other adults conducted the interviews, all students and parents were aware that I would be reading the interviews. However, based on the content of the interviews,
the majority of the interviewees seemed to feel comfortable bringing up negatives as well as positives about the school and my teaching methods/practices.

During the interview process, I provided interviewees with pre-selected lists of learning differences and types of learning for interviewees to consider when answering some questions about learner differences. This may have influenced student and parent responses to the questions. However, I needed interviewees to select from the list those learning differences they identified with or recognized. Asking that question without providing a list turns the question into a memory test, and would place undue stress on the interviewees. I also felt that many students would not be able to state their identified learner differences without a list in front of them.

After reflecting on the problems inherent in using a self-selected group for this data collection, I felt it created a naturally occurring experiment. Dissatisfied customers came to try a differentiated school, and the question is, does it make a difference? If a majority of the students and parents didn’t experience my school as different, there would be a problem. Based on the results of the interviews, they did experience this school as different. That means that it is highly likely my practice reflected the tenets of differentiated instruction, because this varied group of learners felt that their needs were being met by the instructional practices of their teacher. In addition, they experienced the differences in instruction as a benefit to their learning development.

The student who left the school mid-year returned to a traditional public school. It is possible that he and his parent were not truly seeking a different educational environment. Therefore, this alternative school did not work for him.
The Choice

Why choose an alternative school?

Students and parents in my study had four main reasons for choosing an alternative school: having a prior relationship with the teacher, being dissatisfied with a current school or upcoming school, experiencing a negative event, and wanting to find a happy medium between home school and public school. These reasons overlapped for some students and parents. For example, Dale had a prior relationship with me as a tutor for three years and he was unhappy with his current school. His unhappiness with school may have led to his need to receive tutoring, which in turn led to my school.

Choosing an alternative school can be a decision filled with uncertainty, especially choosing a new, unproven school. Most students and parents cited either knowing me or knowing someone who knew me as a reason for enrolling in my school. That comfort level with the school was necessary for taking the action of leaving the known for the unknown. Many parents expressed concern that they were making the right choice, citing worry about standards, STAR testing, and success in high school. Despite dissatisfaction with their current public schools, most of the parents whose children were leaving traditional public schools expressed anxiety. They were worried that they were setting their children up for failure when they would need to transition back into the traditional public school system for high school. Though they expressed frustration with the pace of learning, amount of content, and lack of support for students who were struggling, many of these parents continued to use the traditional public school’s coverage of curriculum as a gauge for where their children “should” be.
Interestingly, parents of students who had identified learning disabilities were less concerned about falling behind grade-level peers in the public schools. Perhaps because their children had always been behind, keeping up wasn’t as much of a concern as making good progress. This does not mean they were oblivious to their children’s progress; rather, they were more comfortable with their children’s natural pace of learning and understood the need to take things slower and respond to each child’s learning curve rather than the government’s prescribed learning curve.

Parents who were coming from the alternative settings of home school or charter school did not express the same anxiety about making the choice. When asked about her choice, River, a parent, said, “I knew Emily and was confident in her teaching abilities. (My child) had been in alternative settings for the past two years.”

Another reason for choosing an alternative school was dissatisfaction with current school/school system. A student, Dale, said, “Emily was my tutor for three years, she ended up helping me a lot, and my mom and I thought it would be a lot better than another school. I wasn’t doing that good at the other schools.” Other students were entering into a large middle school, and either their parents or the students themselves were uncomfortable with the school. In addition, some students had special learning needs and felt that their current school system was not adequately addressing their learning needs. Bert, a parent, gave a list of reasons for switching to an alternative: “Knew Emily (tutored daughter and son), daughter struggling, needed extra help, had previous child fall through cracks at middle school. Had been looking for a number of years at her placement for middle school.” Two students came to my school as a result of
a traumatic event and their school’s handling of the event. Bob, a student, stated that, “I didn’t feel safe at my other school, and my parents put me here.” Finally, two others were doing home schooling and felt a need for more social opportunities and more rigorous academics. Caroline, a parent, said that, “After home schooling for a year, my child was doing well academically, but was hungry to be around other kids, was very lonely. I thought it would be a good option for her to be at a smaller school.” A student, Bobby, said that she “wanted more social interaction than home schooling. Met another kid who was going to Emily’s school, it sounded cool, and my mom wanted me to go.” See Figures 1 and 2 for comparison of student and parent reasons for choosing an alternative school and Figure 3 for comparison of parent and student pairs along each reason.

![Student Stated Reasons for Choosing Alternative School](image)

Figure 1: Student Stated Reasons for Choosing Alternative School
I determined relative importance by looking at how often the reason was mentioned in an interviewee’s transcript. I also looked at my own personal observations. A brief mentioning of a reason would earn a 1 for relative importance, whereas mentioning three times might earn a 3 for relative importance. If a parent talked extensively about the importance of having a prior connection to me, and I knew we had worked together for three years, then that would earn a 3 on the scale of relative importance.
The common factor among all families was some impetus for change. Switching schools is an active choice, a response to a need. By comparing the parents and students from the same families, I noticed that each pair had at least one reason in common, and that each student and parent actually had reasons. I also realized these were seriously thought-out decisions, not spur-of-the-moment decisions. Though it is possible that a parent could make the choice to switch schools without a child’s consent, it is highly unlikely that a minor child could switch schools without a parent’s approval.

Figure 3: Comparison of Student and Parent Reasons for Choosing Alternative School
Who decides?

For the most part, students and parents participated in the decision about attending an alternative school, though the degree of input varied for each family from being mostly the parent’s to being mostly the student’s decision, in a couple cases, the students agreed with the decision, but weren’t happy about it. However, both of these students accepted and then embraced the new environment by mid-year. As one of these students, Catfish, said, “It was my parents’ decision, but I was excited because it would probably be a lot better than public schools. I have had really bad experiences with public schools.”

For most students, the decision was a joint one between the parents and students. Citing her reasons, Monica, said, “Met with Emily, liked her so much I decided to try. Wanted to get along with my teachers, and Emily’s personality seemed like she was easy to adapt to. Everything she talked about seemed really laid out. She had a good plan. Last year I went to a small public school, but I didn’t have a great year there, so I was looking for a new school to go to.” Monica and her mother discussed the decision at great length, talked to me two more times over the summer, and decided to actually switch two weeks before school began.

A few students held the majority opinion in the decision. This seemed to be situations where the parents and students agreed that an alternative was needed, they came up with a couple options, and the students had final say in which option to go with. One of these parents, River, said, “We were looking at two schools, and it was my child’s choice. She felt comfortable and wanted to try it.”
In the case of the student who left mid-year, the family’s decision to enroll in my school was based on dissatisfaction with the current public school due to social problems and problems with teachers, and they made the decision very quickly after happening upon my school while driving down our street as we were moving in, one week before school began. As the year went on, and the same social problems and teacher problems that acted as the catalyst for their move began to manifest, the student and parent placed blame on my school and myself as the teacher, and eventually left to return to the previous traditional public school.

When the alternative isn’t a good fit.

As a result of the above-mentioned student’s move back to public school, I wrestled with the question of best fit. If students come to my school because something isn’t working for them at their current school, is it possible that my school wouldn’t work for some students?

If public schools don’t work for all students, it makes sense that alternative schools won’t work for all students, either. In fact, that is one of the tenets of differentiated instruction: no single teaching method will reach all students in the same way. In the past three years of running my school, I have had three students who did not thrive in my school and who eventually left. I observed some commonalities among these three students. In each case, the students were unable or unwilling to take responsibility for their own behavior. Instead, they tended to place blame on others, were insecure and tried to put others down to make up for their insecurity, had a lack of interest in being part of a community and learning to work with others, and had family
members who enabled their lack of responsibility. I also noticed a lack of interest in learning, perhaps from repeated failures in school.

In general, students who had difficulty taking responsibility for their own learning struggled to find their place in my classroom, a place where an individual’s responsibility to learning, to self, and to the group was vital for success. Since students in my school worked at a variety of levels in any one subject area, I spent half to two-thirds of my time working with individuals or small groups. The only way I could concentrate on the students I was working with was if I trusted that everyone else was focused and on-task with their own meaningful assignments. I also relied on students to help each other before they looked to me for help. In this way, everyone became a resource, and students had opportunities to exhibit their strengths as well as receive assistance from their peers. This, in turn, strengthened our community of learning.

In my observation, it wasn’t that students were unable to learn personal responsibility, but rather that students needed to show a desire or inclination to learn the skills and become part of the group. Students were unwilling or unable to take on personal responsibility in this small school setting created a palpable tension that dissipated when the students decided to leave. In all cases, when the students moved on, they returned to traditional public school settings and reported greater success in their new school environments. This seemed to support the notion that no single place is right for everyone, and no single school or teaching method can meet everyone’s needs.
What, if Anything, Was Different?

The similarities between this alternative school and other schools were consistent. Both environments had kids and teachers, desks, daily schedules, standards, regular school subjects, and similar school calendars.

In looking at the differences between my charter school and other public schools, there were the obvious differences of class size, school size, location, setting, and organization of the day. Then there were the more subtle differences that came as a result of the obvious differences, such as the differences in rules, greater freedoms, the ways we did things, how we interacted with each other, and the types of activities we were able to do. There are differences that came from who I was as a teacher and how I interacted with my students and families and the curriculum I chose to focus on. Finally, there were the differences tied to my attempts at differentiating instruction.

These differences became the four core themes in the data: Class Size and Setting, Opportunities and Community, Educational Leader, and Differentiation. In the next section, I will explore each theme briefly, and then describe in greater detail how these themes had an influence, if any, on student learning and growth as perceived by parents and students.

Class size and setting

When asked about differences and similarities between my alternative school and their other schools, one of the main differences was class size. Having a small class had a large impact on many aspects of our school. Monica, a student, explained,
Size of class is very different. Most schools I’ve been in had 15-30 students, and (here) there are nine kids in three grades. Because it is a smaller school, with fewer kids in it, there’s less distraction. It takes 15 minutes to get settled and actually doing something in public school classes I’ve experienced. So time is used better (here), just because there are fewer students. There is less to get distracted by. Emily is able to interact with the students more than once during each time of studying a subject, and check in with them, whereas in a class of 25 students, the teacher maybe checks in with you twice a day.

Parents also talked about the impact of class size, as Bert said, “Class size is much smaller, and my child is given wonderful one-on-one attention.” Another impact of class size is the way students related to each other. Bobby, a student, said, “Here, the kids are nicer, for one thing. In the other schools there were cliquey groups, that whole thing. But here, there aren’t enough people to split up into groups.” Bob also noted the differences in student interactions when he said, “It is easier to concentrate because they’re not a lot of distractions and less fighting.” Finally, a parent, Louise, noted structural differences in both the school day and the resources available at the school: “Longer school day, availability of the school to the student. She is able to be here 20 minutes before school starts, and stay until Emily is gone, until she doesn’t want to be here anymore. There is a kitchen available to the students. That was a big thing to my child, at this age, to fix lunches.”

The larger, more obvious differences of class size and the school’s environment led to more subtle differences in how the school was run and what kind of atmosphere was created.
Opportunities and community

Students and parents noted the differences in learning opportunities available to a small class. River, a parent, said, “The opportunities for hands-on experiences, being about to observe at the court, doing the speed study…all those kinds of things have been great opportunities for her this year that she wouldn’t have had in other settings.”

Another parent, Jill, appreciated the value of enriching learning activities, saying that, “Learning through activities that put the subject into context, like the immigration activity, creating a school logo/sign, and conducting the surveys” deepened students understanding of concepts.

Students emphasized differences in rules and activities they could do, such as games played outside, as Dale mentioned in his comment:

The games we get to play, like the tire. Once she (Emily) figures it is safe, we can do it. In public schools, they always think of another way that if someone wants to be mean, they can do something that will hurt somebody. But that’s not how it is here. It is too small an environment and everybody’s friends.

Dale felt that because of the small class size, he was able to do activities that larger schools can’t allow. Another student, Smiegal, appreciated being able to keep water at her desk instead of having to wait until a break.

Participating in a variety of learning activities was an important difference for students, as well. Dale mentioned, “We do a whole bunch of things, like the mural. Working on things that really mean something, that are really special.” He expressed the value that those activities had for his long-term memories and learning. White Wolf explained that the materials used were different: “We don’t have textbooks. We read
papers and do experiments and get packets and instructions on how to do stuff. It isn’t boring here. We painted a mural; we have a lot of fun and play outside with each other. The tire.”

The smaller class size and more relaxed setting created an important difference for students and parents in the amount of help I was able to give to students. As one parent, Bert, summed up,

Having the small number of students allows Emily not to have to deal with as many social problems. So she can pay attention to the children who need academic help instead of social problems. Individual attention, caring about the whole person and what goes on in school and out of school, affecting her learning ability and attention, and her special learning needs. All those things are addressed, daily.

Which brings us to the differences every classroom has due to the individual nature of a teacher, what she emphasizes, his personality, her personal foci.

**The educational leader**

Some students explained that there was a difference in how I focused on their learning and their needs. Smiegal said, “Emily sort of zeroes in on us. If we need help, she doesn’t explain it with the whole class. You get more helping…more individual help. Some teachers, if you have a question, they stay up at the front of the class, but she comes up to us. Emily knows where we are when we learn…” It seems that students knew they were known, and that was important to them. There was also a perception among many students that I helped them more than previous teachers had. I placed a personal emphasis on communication and problem solving in my teaching. I used class meetings to teach students problem solving strategies and skills, and I also taught them
that problems are not solved over night, and sometimes you have to work on things slowly over time. Several students talked about the impact this emphasis had on our school, including Catfish, who said:

   People are easier to communicate with because there are fewer people to talk with. You can really know people, know their personality better. At this school, no one gangs up on anyone, and everyone is friends. Sometimes you have problems with someone, but it is a lot better here because there is a smaller group, so if there’s a problem, we talk about it in class meeting, or with Emily. Here, when you have a problem, you work on it, slowly.

Her comments show that our focus on solving problems, at an age where peer relationships are increasing in importance, was an important component of our school’s curriculum.

Differentiation

Both students and parents talked about how our school’s focus on and acceptance of individual differences in learning style, approach, and ability was a new experience, an experience of importance. One parent, Caroline, observed that,

   Individual children are not so bored and disrespectful. They are serious. They have been made to feel good as individuals. Not so much as just an individual, but beyond that, how they learn and what they learn…the best ways for them to learn. Grade levels don’t seem to be such a big issue. Here there are three grade levels, and it doesn’t come into play whether you’re up to this grade level with your work or whether you need to go beyond that… That’s probably the biggest difference.

Another parent, Jill, noted, “There doesn’t seem to be pressure to learn. And yet kids get a lot done. The environment isn’t strict. The kids seem to find their way towards positive behavior. It seems to be like the kids want to get along with each other without all that…behavior…discipline.” Yet another parent, Anne, commented on the level of
acceptance, stating that, “The way that children accept each other in this classroom. They accept each other the way they come. They are not very judgmental of each other.” A student, Dale, recognized the value of being an active learner rather than a passive learner, saying that, “…being able to do things instead of being told about things. To find out for yourself instead of being told. You can learn in different ways, instead of just hearing about it or reading about it.” All these comments point to the value of presenting material in a variety of ways, of talking about and valuing differences, and of making variability in people the norm rather than the exception.

The parent and student identification of the teacher and environment as important factors in successful differentiation supports the literature. Parent and student response to the implementation of differentiation depends on how well the teacher communicates the benefits of differentiation, and how deeply the teacher is committed to it. Not only is it the teacher who has to make the decision to differentiate and put in the time and effort necessary to make changes, but the teacher must be able to create an environment where the very differences we all embody are embraced, expected, and honored. Without the teacher’s emphasis on differences and active planning for differences, differentiation becomes another fad that is attempted and dropped by the wayside when something newer and more exciting comes along.

Parent and Student Perceptions of Differences

In my review of the literature, I noted an absence of any parent or student reflection on how people learned and the benefits of differentiation. I asked both students
and parents if they believed people learned differently and how. I then asked parents what they felt was the school’s responsibility in addressing these differences.

Do parents and students believe that people learn differently?

Granted, these parents and students were asked this question after being in a classroom where differences in learning styles and abilities were talked about, honored, expected, and emphasized. It may have been more appropriate to ask this question at the beginning of the year, and then again at the end, to determine if the classroom atmosphere impacted their thinking. Regardless, the results were interesting. Based on my review of the literature, parents and students have rarely been given the opportunity to voice their opinions on education.

Most parent responses to the question of whether people learn differently were an emphatic “yes” or “absolutely.” Parents then went into greater detail about what schools should do to meet differences. (The next section presents more parent comments on this topic.) One parent, Louise, had a lot to say about this question:

They (other schools) did not base their teaching on differences. …back then, she wouldn’t express herself, she wouldn’t do the short stories, she wouldn’t do the independent writing. She wouldn’t do anything that expressed her feelings because she did not want to get hurt; I think a lot of it was. It was either right or wrong, black and white. And that, to me, is not the way people learn. It’s not helpful. Everyone has their own style of doing things. I believe everyone has his or her own learning style. I know I can’t comprehend things when I read them. I have to have it read to me: see, hear, and verbalize to someone else. Unless you are encouraged to express yourself and learn in the way that you feel comfortable, you aren’t going to learn. For a child, if they don’t feel comfortable learning, if they feel like they are getting told they are not doing it right, they aren’t going to learn.
Louise’s own experiences as a student and a parent had reinforced her belief that learners
are different. As highlighted in the research on brain compatible instruction, when a
learner’s needs are not met, this impacts how emotional and attitudinal components of
learning are affected and reduce real learning.

Students had more to say on this question than parents had, perhaps because
students had been focusing on differences all year. They were able to describe ways
people learn differently, such as Bobby, who said, “Yes, I mean, some people can learn
just by seeing it or something, and other people can’t.” White Wolf also agreed and
explained that, “Because everybody is at a different stage of learning, different people
have different abilities and different ways of learning.” Dale expanded on his earlier
explanation of the importance of doing real work by saying:

Yeah, a great deal. Because some can’t (learn) very easily, if something
is just written on the board, or doing something looking at a book; doing
something like that doesn’t help some people. Some people it helps to DO
it, to physically do it. And some, to read and stuff helps them learn it
better than other ways. Everybody’s different.

Another student, Catfish, had previously struggled in school because she learned
differently. When asked the question about differences, she said, “Yes, because I believe
people learn really differently. When I talked to my mom in public school, I’d say, ‘I am
really stupid, I can’t get anything.’ And she’d say, ‘No, you aren’t stupid, these people
just aren’t smart. You just learn differently. Your brain is just… Your brain just learns
differently.’”
One student, Monica, explained her thinking in this way:

Yes, definitely. Especially in our class. We have nine people in our class, but it is so obvious the different ways people are on completely different levels. We’re all able to learn the same lessons because of the way Emily presents them to us. They’re really easy to understand. But there are definitely people at different reading levels and writing, and you can see that. I think everyone has an understanding of the different levels that they’re in, and they’re okay with that. But I think there are definitely differences between all of us, and the way we learn and the way we feel towards learning and the level of our ability.

Similar statements about the existence of real differences were found in each student and parent transcript. The students and parents in my school generally believed people learn differently and that teaching to these differences is important for learning.

Do parents feel the schools have a responsibility to respond to learning differences?

This was a loaded question. It was like these parents had been waiting their child’s whole education to be asked this question. Louise expanded on her earlier comments about the existence of learning differences by saying:

I think teachers should be trained or taught the different ways that there are of learning. Actually, all teachers should learn how to work with students who have different styles, who have disabilities. I think that if teachers were instructed more about the learning differences, the different ways kids absorb information, I think it would be a lot easier for kids to learn. I think it would be a lot healthier because kids would want to learn and want to go to school. My child has never wanted to go to school since we moved up here (several years ago), until she started to go to school here. And now she won’t miss a day of school.

Louise’s comments pointed to the importance of emotions in learning, for as her daughter became more comfortable with her learning environment, she became more connected to school and more able to learn.
Another parent, River, pointed to the need to balance strengths and weaknesses when she said:

I think that schools’ responsibility is meeting each of their needs, finding what works for them, and being able to help them blossom and yet try to help them develop their skills in other areas that might not be their strong points, but in order to become a well balanced, healthy adult, you have to be able to balance out, even the sides that aren’t strengths and learn coping skills or become aware of the coping skills you are using.

At my school, in using differentiation as a philosophy for organizing educational experiences, students were asked to work from their strengths at times, and then work from their weaknesses at other times. In addition, students became more aware of their strengths and weaknesses and more accepting.

Jill talked about the school’s role as resource provider, saying that if a school can’t meet a student’s needs directly, they should “find a situation, either to bring in a teacher or find a situation where that (the student’s strength) can be applied, or help the family in doing that.”

Caroline emphasized the importance of differences being accepted as normal, saying that, “…the teacher is there to teach and guide. I think the school’s responsibility is to at least address the fact that kids learn things differently, and to do whatever they can to help these kids get through school in a positive way, and to become familiar with their differences in a positive way and not in a negative way.” By talking openly about differences and expecting differences rather than viewing them as problems, using differentiated instruction seemed to help students at my school view differences in a more positive way.
Focusing on the importance of teacher adaptability, Anne said:

I think they should reach as many children as possible. To be able to adapt to the different learners. I know it is not always possible in a big setting. That’s what is nice about this, is that it is a smaller setting. She (the teacher) can get close enough… my child could not really bond with any other teacher, up to this point. That was really important, to be able to make that bond, so that he could be comfortable.

Anne’s child felt different from the other students, and felt that his differences had been a problem, an annoyance, for his previous teachers. In an environment where everyone was acknowledged as different, and his teacher accommodated those differences, he was able to relax more and connect with people. Finally, Bert said:

As a parent, you think they (schools) have full responsibility, but in the real world we know that’s not true. There are so many children out there, and we all learn differently. You can’t realistically meet every child’s needs. Thank god for people like Emily who are trying to do so, at least with a handful. We are fortunate enough to be in that situation.

Bert’s comments showed how challenging differentiated instruction is perceived to be by many people. The one-size-fits-all model of instruction has been in place for long enough that parents, teachers, and students see it as the norm. Yet, differentiation makes teaching easier in the long run. Though parents and students perceived that the small class size had the greatest impact on student focus and behavior, I was convinced that the emphasis on real learning and attention to student differences reduced students’ misbehavior and increased students’ focus on learning. In turn, these changes increased the time I spent working with students on work, and reinforced the time I spent on differentiating learning activities. Though the small class size certainly had a significant influence on the teaching and learning environment, the same problems with behavior
and time-on-task could have occurred with any size group if differences had not been addressed. In general, unmotivated, uninvolved students will find something to do, and it won’t always be productive, at least in the eyes of a teacher or parent!

Parent and student responses to these questions indicated that they noticed differences between individual learners, felt that schools tended not to accept, notice, or pay attention to these differences, and believed that these differences should be addressed if all students are to learn and succeed in school.

What Were the Perceived Impacts of those Differences?

After asking questions about what the differences were, I then wanted to know if the differences had any perceived impacts--positive, neutral, or negative--on student growth in academic, social, emotional, and attitudinal ways. When I asked these questions, I gave interviewees a sheet that described each type of learning (Appendix F), and the interviewers went over the information to make sure each interviewee understood my definitions. The four themes detailed above, Class Size and Setting, Opportunities and Community, Educational Leader, and Differentiation, came out clearly in student and parent perceptions of the impact of the differences between this alternative school and other schools they’d experienced.

Though I asked specific questions about the perceived impacts the differences had on specific types of learning, it was a challenge to organize and interpret the resulting data. In the end, it made more sense to group the data by the four themes. Each student came to my school with different needs, and those needs were met in different ways. Often, students discussed the same theme, such as class size and setting, under two or
more of the types of learning. Some students and parents did not mention certain themes of differences, while some mentioned all of the themes of differences. A further problem with analyzing the data was that some parents and students sometimes combined different types of learning in response to the questions. For example, some parents and students discussed a social aspect of learning under the academic learning question. As a result, I had to code responses based on the type of learning and then go through to analyze what, if any, theme of difference was being described. Table 2 shows the relative relationships between each theme and each type of learning, based on the number of times each was mentioned by an interviewee.

<table>
<thead>
<tr>
<th>Type of Learning</th>
<th>Academic</th>
<th>Social</th>
<th>Emotional</th>
<th>Attitudinal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Size and Setting</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Opportunities and Community</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Educational Leader</td>
<td>9</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Differentiation and Emphasis on Differences</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2: Perception of Impact of Differences on Types of Learning
Both students and parents perceived that the differences between this alternative school and their previous schools had resulted in positive impacts, overall. However, the perceived positive impacts of the four themes of differences on types of learning were not distributed evenly. Of the four themes, the emphasis on differentiation and differences, as well as the educational leader were perceived to have the most impact on academic learning. The opportunities and community, as well as the class size and setting were perceived to have the most impact on social learning. Opportunities and community, as well as the educational leader were perceived to have the most impact on emotional learning. Finally, the educational leader was perceived to have the most impact on attitudinal learning.

There were two perceived negative impacts of the differences between my alternative school and other, more traditional, schools. As reported by parents and students, the small class size in my school had a negative impact for two students in the areas of social and attitudinal growth because they felt they were missing out on the social opportunities available at a larger middle school. However, in both students’ and parents’ opinions, the negative impacts were ameliorated by the positive impacts of class size on academic growth. The small class size and educational leader’s emphasis on building community and solving social issues also had a perceived negative impact for one student who felt that we may have spent too much time focusing on solving problems in class meetings. Though she felt that the class meetings were valuable, she explained that sometimes we needed to put issues to rest. This self-reported negative impact was ameliorated by her own statements about the overall value of class meetings, and by the
other student and parent reports of the value of class meetings and the positive impact they had on students’ social and emotional growth.

In each section below, I discuss in further detail the parent and student perceptions of the impacts each theme of difference had on student learning.

Impacts of Class Size and Setting

The small class size of ten was perceived to have positively impacted student achievement in all areas. Students and parents spoke about the positive relationships among students, between students and teachers, and among teachers and families. These positive relationships may not have developed with a larger class size. Class size also was perceived to have positively impacted the atmosphere of the class, which was calmer and more focused. Having a small class size also made it easier to communicate with one another. The intimate setting of the buildings and our private “for us only” outdoor area created an atmosphere of play, increasing “kid” behavior instead of “teen” behavior. In turn, this led to a more accepting and non-judgmental tone at school.

One student, Bobby, talked about the importance of having physical break times for learning. The setting at the school allowed for creative play, such as tag, fort building, rolling in the tire, and various invented games. Bobby felt that having time to play outside had a positive impact on her academic learning.

I’ve learned a lot in one year, more that I have the other years that I’ve gone to other schools. Like in the other schools, we didn’t really run around any. I mean it is just like you sat there. We didn’t play tag or do any physical things. We just sat there. Because there wasn’t any space. We didn’t have a field or anything. We had a field the size of this room. (Why do you think physical things help?) I don’t know. It’s just…(Does it help your academic learning or just generally?) Academic. Like at
break, you're just sitting there on the playground...you have a bunch of energy but you don’t have anywhere to let it out. And then when you come back in class and you’re just...you’re not paying attention or anything. (Because you’re wound up?) Yes. But if you get it all out at break time, then...you’re tired enough to just sit there and listen in class and actually learn something.

Bobby’s comment was a valid criticism many middle school and high school programs that have all but eliminated breaks during the school day in order to squeeze in more instructional time. According to research on the brain, all learners need “down time” to process what they have learned.

Jill, a parent, mentioned the importance of the school setting on the students’ behavior and social interactions. “There doesn’t seem to be pressure to learn. And yet kids get a lot done. The environment isn’t strict. The kids seem to find their way towards positive behavior. It seems to be like the kids want to get along with each other without all that...behavior...discipline.” The class size and setting was perceived to have a good deal to do with the difference in students’ behavior. Several students and parents commented on how the relaxed tone of the school led to an easier time focusing on learning.

The alternative setting for middle school years was perceived to have a positive impact on social and emotional growth. Several parents and students compared the world of a large middle school to my small alternative school. In talking about the differences in her son’s experiences, Anne said:

He seems to understand a lot more [about other people] than he did. He’s not in that world of Jr. High, where it’s like another world from life itself, and the rules are so different, and they’re not basically reality based
in the real world. But Emily’s kids, they are all being pretty real in their life experiences, at home and stuff.

This perception that our school was grounded in real life was mentioned repeatedly. Avoiding the social situation common in large middle schools was also seen as promoting more positive involvement in all types of learning activities. Students with special learning needs benefited too, as Caroline reported about her daughter:

…this school has given her a place where she can freely write down her feelings, has given her a place to grow, and it hasn’t been stifled. She has been able to write…she’s gone from writing a paragraph to writing ten page stories, which none of us believed would ever happen…academically, she’s been able to work as an individual within the group.

For other students, the small class size was perceived to have positively impacted their learning because they felt safer and more able to concentrate on learning. Safety was an important issue for Dale, who said:

There’s always a better feeling. Just having a smaller class size helps. We’re not mad at each other, it is smaller to where it doesn’t spread as easily. It’s a small amount of kids to where if there’s a problem or something….it’s easier to take care of and it’s not like we’re always mad at each other. If you’re constantly mad at somebody, you’re not going to learn anything or want to share.

He felt that personal safety was critical to his ability to learn, and having fewer people to interact with led to a greater feeling of safety for him.

Having a small class size and having a different physical setting for school was directly related to the next difference I studied. The opportunities for learning and the development of a strong sense of community seemed to be built on a foundation of the small class size and alternative setting.
Impacts of Opportunities and Community

For this study, “opportunities” refers to the learning activities we were able to do as a result of having a small class and a unique setting. “Community” referred to the opportunity we had to focus on building our community and working on it all year. Part of the community building was the process of working together as a group and helping each other. I wanted my students to see themselves as people who could help others. One parent commented that her daughter was:

…able to do a lot more of her work on her own. I think here the kids work together more and help each other out. I think that is a big thing, because when she goes into the work force, teamwork is one of the biggest things at work. You need to be able to work with other people.

Our emphasis on community made sense to Louise because it was more tied to how life really is.

Having the extra opportunities, such as science experiments, naturalistic studies, painting a mural, and putting on a three-act play, helped create excitement and enthusiasm in students. As White Wolf said, “It isn’t boring here. It is actually fun. We do a lot of different things than at regular schools. Like we painted our mural…we did experiments in science, the play…” This sense of fun was perceived as positively impacting attitudes, and in turn positively impacting academic learning.

One aspect of building our community was our use of class meetings to solve problems and better understand each other. Though class meetings may not have impacted academic learning, they certainly impacted social and emotional learning. In addition, I don’t believe students would have been as open to using class meetings to
solve problems if they weren’t already coming from a foundation of respect for differences based on our focus on differentiation in academics. Bobby said that class meetings were important because:

…it has helped me a lot to understand people…. At my other school they would never think of having class meetings. But with class meetings, … you kind of find out what each person is going through, and you are more careful not to say…say if someone was going through…say their parents were getting a divorce, you wouldn’t want to be like talking a whole bunch about divorce in front of them. And just stuff like that… you learn more about them and it helps you become closer to them.

Some interviewees discussed the impacts of having a strong community where discussing hard issues is equally as important as math or science. Jill talked about how her daughter showed tremendous growth in her ability to discuss issues comfortably in a variety of settings. She said:

Well, Emily has [created] such a supportive and communicative environment for Monica and for the rest of the kids, that they’ve been given an opportunity to talk about things that [they might shy away from]. And I’ve seen it overlap at home. She used to really back away from something she was uncomfortable with, and didn’t want to talk about it. And now she is just very forthcoming with what’s going on with her and she’s not afraid to speak her mind, even if it is strong and maybe what she knows other people don’t want to hear. She doesn’t care so much; she is more willing to say what she feels.

The small class size helped students who had struggled with peer groups feel more comfortable, too. Anne said her son:

…feels free to be himself. That was really important to him. He doesn’t…he use to…he’d go to the doctor and stuff, and the doctor would say, okay, how do you feel about school? And he’d say everybody hates him. Now he never says that everybody hates him. Last time, I said, do people like you? And he said everybody likes him. That social interaction, that talk, is pretty positive with everyone.
Impacts of Educational Leader

The traits of the Educational Leader were perceived to have positively impacted student achievement, relationships, focus on social issues, focus on differences and ways people learn, attitude, students’ feelings about themselves as learners, and students and parents’ feelings about school. In the literature, the importance of having a teacher who cares about students and communicates that caring clearly is frequently stressed as critical for successful implementation of differentiated instruction. A teacher who cares about students is going to be more likely to put in the time and effort it takes to get to know the students. A teacher who puts in the time and effort is going to communicate the importance of differences to students, and is therefore going to elicit more support from students and parents for moving outside the box of traditional educational practices.

Parents, like Louise, talked about how well their children connected with me, and how that connection led to increased learning and a more positive attitude:

White Wolf seemed to do a lot better and to be a lot more willing to work with [Emily] than she did with others. They clicked. I think that was the big thing. White Wolf really seemed to click with her. And for a student to be able to learn from a teacher, I think they need to be able to do that.

Students also talked about how their feelings about themselves as learners changed over the course of the year, including Smiegal, who said, “Emily makes me feel better about myself, and that makes me feel better about school and the other peoples. And the other peoples, when I’m nice to them, they’re nice, and it is sort of like a chain reaction.” This student perception supports the notion that, as the educational leader, the teacher sets the
tone for the school, students, and parents. How I responded to differences translated loosely into how everyone else responded to differences.

Perceptions about the educational leader’s impact on the school environment were brought up in nearly every interview. One student, Monica, explained how she thought my leadership impacted her emotional, social, and academic learning:

Emily really provides an openness to the school that makes a really homey place, and everyone feels pretty comfortable and safe. Emily definitely expresses herself and she is...I mean, it is hard to differentiate her from a kid to an adult. Not saying she acts like a kid, but she is not afraid to get silly with us and have fun with us. She plays tag with us and does the parachute with us, gets dirty and paints with us...that makes it easier for us to be that way, too, when we have an adult setting an example.

Several other students talked about how my enthusiasm for play, and my ability to still think and act like a kid, helped them loosen up and enjoy their time at school. By making the environment safe for playful, kid-like behavior, I modeled the kind of learning I felt was important, and I modeled what I thought being a learner was, regardless of one’s age. At times, students who are in the middle school years feel forced to behave “maturely” before they are ready to let go of being a kid. Sometimes this translates into being “too cool” to have fun learning. Visitors to my classroom over the past three years have frequently noted how playful, enthusiastic, and willing my students have been.

During the beginning of the school year, I conducted a learner inventory for each student, for which the student, parent, and teacher all filled out a survey designed to uncover the learner’s profile of Multiple Intelligences. I shared the results of the surveys with parents and students at their 3-week conference, and we then used those results to
tailor some instruction during the school year. We also spent two months studying how
the brain works. Nearly every parent and student mentioned the learner inventory and the
brain study in their interviews. It was a unique experience for everyone, to have a teacher
delve into how each student was different, how each student learned, and how that could
be used as a strength instead of a problem. Caroline explained the value of this
experience for her child:

I think one of the really special things that happened this year with
Emily…she started the year off with an interview process, with her, and
she had questions for her to answer about herself. Having to look at
herself, and how her brain works, and how she learns best, is something
that doesn’t happen out there in regular public schools. I have noticed that
this has changed her attitude about herself. All of a sudden, she has felt
important…I feel like the other kids have felt important, too.

Caroline’s daughter, Catfish, mentioned how my appreciation of where she was and how
she learned translated into changes in her emotions and attitude, as well as her learning,
when she said:

She doesn’t push me as hard as other teachers do. I feel very comfortable
that I can go at my own level and I can go to the highest level that way.
Other teachers would just push me, trying to get me to other levels. And I
would get frustrated. Now I’m not getting as frustrated. I’m more
confident in myself.

Catfish is talking about differentiation: she is working at her level, instead of at a
frustration level.

My personal emphasis on differentiation, or my appreciation of differences and
my understanding that all students may not learn the same way, was frequently
mentioned when students discussed their learning. Monica was one student who
expressed how important being able to work within her own learning style impacted her academic growth:

I feel like this year, things have really worked themselves into my brain, because…I really get things. Because instead of learning them and reading them, Emily is telling us why they are that way, and giving us reasons why it is important to learn about that and why certain things are this…instead of learning about, you know, this is the way you simplify a fraction, she tells us why you simplify it that way. As far as impacting me academically, I think it has really impacted the way I learn and the pace that I learn at and my level of understanding what I am learning.

She went on to talk about how she needed to ask questions, and she often needed re-teaching of concepts. She appreciated how I re-taught in ways that made sense to her, instead of just repeating the lesson again, exactly as I had the first time.

Just as each student brings individual personality traits, learning styles, experiences, and needs to the learning environment, so, too, does the educational leader. From the responses of my students and parents, it didn’t seem that the educational leader had to have a certain set of personality traits, etc. Rather, the important ingredient seemed to be openness to differences and a desire to understand individuals rather than to make individuals conform to a set ideal. To me, this translated into openness to the philosophy of differentiation.

Impacts of Differentiation

Differentiation impacted student perceptions of themselves as learners, social growth, relationships, community, student achievement, and their attitudes toward school and learning. In our class, we discussed differences openly, shared how we learned similarly or differently, talked about allowing others to have their own opinions, and
reiterated the reality of differences throughout the year. There were students in three grade levels, but they were not confined to only working within their grade-level cohorts. Instead, they worked with people who were working on the same concepts or ideas. Or they worked with people who could help them the most. Or they worked with people whom they could help. The fact that students were all over the place in regards to knowledge, achievement, skills, and thinking strengths became a strength of our community, because no matter what someone needed to do, there was always someone who could help. In a way, each student became a resource for the rest of the school. Though this was important for all learners, it seemed to have the greatest impact on learners who had struggled in previous schooling environments. Dale explained how our emphasis on differences impacted his learning in all areas:

I’ve felt a lot more comfortable with… not worried about what somebody’s going to say with my learning disability and everything. Before, it was like ‘stay away,’ because before you would get called names or something, always. By other students and teachers. Here you’re not being treated…differently, but then again you are being treated differently than everyone else…you may get work that is different, but it’s not [that] you’re being treated differently.

Since Dale felt more comfortable with, and less defensive about, his learning difficulties, he was able to focus more on his learning. He echoed a similar statement in most student interviews about how getting work that was different did not mean you were being treated differently. Fair does not mean identical.

When students are not concerned that they are going to be different, or that they will be looked down upon by their peers, parents, or teachers for getting different work or
needing different ways of learning, the absence of that fear can have a tremendous impact on their learning. Louise stated this when she said that:

I think that the group that they’ve had here, she’s been able to express herself more, without feeling afraid to express herself. At the public school she was at, you didn’t do that. You learned history this way, you learned math this way, you did it the teacher’s way and there was no other way to do it.

One aspect of differentiation that many students and parents mentioned was the flexible pacing. The students in my class who had struggled with previous school environments often felt they were being pushed too fast. Bert, a parent, mentioned that, “What she’s gotten from the last year is invaluable. The one-on-one and allowing her to learn and the pace and her whatever way that she learns, her kinetic whatever. It is so important.” Her daughter, Amy, needed time for information to sink in and repetition of ideas. She needed to write about what she was learning, and she needed to use it in a kinesthetic way in order to truly process it.

Bob also mentioned that he valued “being allowed to learn at my own pace…sometimes I don’t learn as quickly or as slowly as others.” Bob went on to say, “And I need to snack while learning. Emily allowed me to eat while doing my work.” Several other students also mentioned the importance of being able to eat or drink when they needed to, instead of on a schedule. Eating and drinking on a schedule is directly linked to the factory model of learning. How many students have difficulty focusing on learning because they are hungry or thirsty?

An outgrowth of the student inventories of learning styles was a parent/student/teacher conference where we discussed the student’s learning strengths and weaknesses
and set goals for the year. These became our class “individualized education plans (IEPs).” Parents who were used to the special education IEPs talked about how these plans helped them, and helped their children, be more comfortable with where they were as learners. In talking about this, Caroline said:

I am really happy with what she’s learned this year. I wish every child could have an individualized education plan. I think maybe that may be the most important thing that has happened, you know, as a parent, looking at my side of it. Having a special needs child, she always felt that she was the only one out there being pulled aside… To have the other children going through the same process sort of took some of that load off and helped her to see, look, we’re all individuals, we should all really have an individual education plan and a different approach to teaching… that we can all bring something to the table that will help everyone.

Focusing on differences impacted students’ social growth, as well. For students who had previously looked upon differences as a way to categorize people and judge whether someone was cool or whether someone was a good person to talk with or hang out with, they gained a new perspective on other people and on themselves. In talking about her daughter’s growth in this area, River said, “Smiegal has gained a lot of confidence and ability. She has learned a lot about herself as a learner. They were able to recognize where their strengths lay, and able to accept other people and their differences.” A student, Monica, explained that:

This year has helped me to better understand peoples’ differences, especially socially. Just like people’s home backgrounds, too. Like I was saying before, hanging out with people, and the people that are in my class, I might not have actually interacted with in other situation. And so that has helped me to grow and understand differences between people and interact with people that I wouldn’t maybe normally interact with. I’ve learned that I really like everyone at this school, whereas I came in at the beginning of the year and I wasn’t sure that I was going to have any
friends. But once I allowed myself to accept the people in my class, then they started to accept me, too, and then there was that feeling of openness.

**Summary of Findings**

Though each specific difference was perceived as impacting certain types of learning, all the differences were perceived as having some level of impact on all the types of learning for the students in my alternative school classroom. The student and parent perceptions clearly supported the philosophy of differentiation. Each student came to my classroom with specific, individual needs, and by having a classroom that was flexible enough to accommodate those needs, and a teacher who looked at those differences as a challenge waiting to be met rather than a disruption to her teaching plans, more of those needs were perceived as being met during the course of the year. For some students, social needs were most important. For others, their academic needs came first. For most students a combination of needs that encompassed the whole spectrum of learning was most important. This outcome seems to validate the philosophy of differentiation, while negating the common practice of the one-size-fits-all form of learning typically found in traditional public school environments.
CONCLUSION

While conducting this research, I gained perspective on parent and student perceptions of school, learning, and myself as an educator. I developed a better understanding of the role of the environment in learning--something I always felt was important, but never fully grasped. I gained more respect for the points of view of my students and their parents. I understood more fully the difficulty of the change process, and gained a deeper respect for teachers who are moving toward a differentiated learning model within the constraints of a traditional learning model.

I learned that even the tiniest bit of differentiation makes a tremendous impact. While I didn’t differentiate my entire school day, I believe that my regular emphasis on differences, teaching about the brain, and focusing on how we learn and how we learn differently, made an impact. Giving kids different assignments became expected and routine, so I could begin to address kids’ needs without worrying about the status quo. As a result of our early focus on how people learn and how the brain works parents seemed to have more connection to what I was doing, trusted me more, and felt like I knew their child intimately. Students exhibited more responsibility for their own learning and seemed to have greater investment in projects and activities, especially when they saw connections to how they learned.

Further research is needed to better understand the variables of educational leader and class size/setting in regards to successfully implementing differentiated instruction. I believe the structures and philosophy of differentiated instruction are flexible enough to
be implemented by any teacher, with any group of students. However, some might believe that any teaching method would be more effective with a smaller group of students; therefore, examining the effect of class size on student achievement with teaching methods as a variable could be an important area for further research. Finally, by having a small class size, it may be easier to provide unique, enriching learning opportunities that would be unrealistic or unmanageable with a class of twenty-five or thirty students. I would be interested in looking into how traditional educational practices are linked to student numbers and efficiency, as well as how differentiated instructional practices are impacted by student numbers. In addition, questions generated from my review of the literature regarding the lack of research on the effectiveness of differentiation and the need for a comparative evaluation of the different learning style theories are other areas for future research.

In the beginning of this research, my questions were: Why did these students and parents choose alternative education?; What, if anything, is different about this school?; and, What, if any, impacts do those differences have on their learning throughout the year?

Regarding the first question, I discovered that the students and parents chose to enroll in an alternative school for a variety of reasons. For each student/parent pair, both students and parents perceived reasons. There were common reasons for each student/parent pair, but not necessarily identical reasons.

For the second question, I learned that there were perceived similarities between my alternative school and traditional public schools, including daily and yearly
schedules, curriculum areas, STAR testing, and the presence of students and teachers. There also were perceived differences between my alternative school and traditional public schools, including the class size and setting; the educational leader; the opportunities and community (which resulted from the class size, setting, and educational leader); and the focus on differences and my attempts at differentiation during the school year.

For the third question, the perceived impacts of the differences were varied. As each student and parent brought their own experiences, perceptions, and needs to the school, they each experienced the differences in their own, unique ways. For the student who came to the school for personal safety, his perceptions focused on how the students accepted each other and how he was able to concentrate better because other students weren’t teasing each other and goofing off. For the parent who had learning disabilities, her perceptions focused on how students were able to work at their own pace and focus on their strengths and use alternative methods for learning and assessment. She perceived that her daughter was able to grow more academically as a result of the emphasis on differences and differentiation.

In conclusion, it doesn’t seem that any one difference was perceived as having the most impact. Rather, the dynamic interactions between the differences and the individuals appear to have led to a unique outcome for each learner and for each parent. Thus perhaps the value of differentiation lies in the greater possibility for each individual to come into the classroom and be more likely to experience what he or she needs in order to thrive academically, socially, and emotionally instead of just survive.
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Appendix A: Cover Letter Sent to Parents/Students

Dear Families and Students,  

As you may know, I am in the process of earning my Master’s degree at HSU. The focus of my Master’s thesis is the creation of an alternative education program for students in 6th-8th grades and how my students and their parents experience the year. As students and parents involved in the first year of this program, your input on how things have gone is vitally important to my work.

The basis of my program is called differentiated instruction, which simply means modifying what students learn (content), how students learn (process), and how students show what they learned (product). This modification is based on the best practices in education, puts students at the center of teaching and learning, and lets students’ needs direct instructional planning. All students in the classroom are learning the same core concepts and understandings, but may learn them in different ways, and may take their learning to different levels. As a “new” teacher to Differentiated Instruction, I have read many books about how to do it. But there are few if any resources out there sharing what it is like to create a differentiated classroom, or what it is like to be a student in such a place. This is where you come in. I would like to gather data from students and parents in the form of interviews.

Attached is an informed consent form. Please look it over in the next couple days. I will be calling you to explain the form clearly to you, answer any questions you have, and possibly set up interview appointments.

Sincerely, Emily Gibson
Appendix B: Informed Consent Form

Consent to Act as Research Subject

I hereby agree to allow Emily Gibson, the researcher, to conduct the following procedures for the purpose of gathering data and conducting research: Interviewing myself, interviewing my child, and collecting my child’s work samples during the course of the 2002-2003 school year.

The above-mentioned procedures will occur in the classroom with Emily Gibson at the Pacific View Charter School Learning Center at 3629 Spear Avenue in Arcata, California. A third party will conduct the interviews in order to increase validity of results and ensure anonymity. Agreeing to participate in this study means our data will be used to share our experience of differentiated instruction with other teachers and administrators in the researcher’s master’s thesis.

The purpose of these procedures is to learn about how students and parents are experiencing this alternative learning environment. Interviews will be used to examine how students and parents interpret differentiated instructional practices and what impact these practices have on how students learn and view themselves as learners. Interviews will be tape-recorded and transcribed. Interviewees will choose pseudonyms, and the researcher will not know which pseudonyms belong to which interviewees. This will help ensure my privacy and anonymity as well as the validity and value of the results.

In addition to interviews, the researcher may use student and parent learning style inventories in her research, as well as student work collected over the course of the 2002-2003 school year for comparison and observation purposes. Any student work used in the research will be identified with a pseudonym of the student’s choosing. Standardized test scores for the last three years will be used by the researcher to compare school year performance levels on standardized tests, and will not be used publicly except in reporting group results.

I understand that the procedures described above involve the following possible risks and/or discomforts, and that they will have the following possible benefits:

- Risks include being recognized in the final thesis, despite pseudonyms, due to the small educational community in Humboldt County.
- Potential benefits include increasing my knowledge of how my child learns, helping other teachers who are interested in differentiated instruction, providing an example of differentiated instruction, and helping the researcher reflect on and analyze her teaching practice.

This information was explained to me by Emily Gibson. I understand that she will answer any questions I may have concerning this investigation or the procedures at any
time. I also understand that my participation in any study is entirely voluntary and that I may decline to enter this study or may withdraw from it at any time without jeopardy. I understand that the investigator may terminate my participation in the study at any time. Neither I, nor my child, is receiving any compensation for participating in this study. My signature below indicates permission for my child, who is below the age of 18, to participate in this study.

_____________________________         __________________________
Student’s Signature     Authorized Parent/Guardian

Adult’s Consent:
I give my consent to be interviewed as described above. ________
I give my consent for my child to be interviewed as described above. ________
I give my consent for my child’s learning to be documented, as described above. ______

_________________________________________           ______________
Authorized Parent/Guardian   Date

Child’s Consent:
I give my consent to be interviewed as described above. ________
I give my consent to have my learning documented, as described above. ______

_________________________________________           ______________
Authorized Student Signature   Date
Appendix C: Student Interview Protocol

Student Interview # _____________ (Parent Interview # _____)
Date:_______________________  Location: ___________________
Interviewee: _________________

Hello, My name is _____________________ I am a Master’s student at HSU, and I am helping Emily Gibson conduct interviews for her research and Master’s Thesis. Emily would like to record your interview. Any teachers or schools you name in the interview will be given pseudonyms (fake names) to protect their identity. Emily will keep the tapes in a locked cabinet until she is finished with her thesis. She will not listen to the tapes until after the school year has ended. Do you give your permission to tape record this interview? ________. Thank you!

Now I need you to pick a pseudonym (fake name) for yourself, to protect your identity. This name will be used in Emily’s thesis whenever she refers to your information. What would you like to be called? ____________.

I want to talk with you about your experiences as a student attending Emily Gibson’s Learning Center on Spear Avenue in Arcata. Specifically, I hope to learn more about your perceptions of how Emily teaches and how you have responded to that teaching. During this interview, I will give you a copy of the questions, so you can see them in writing as well as hear me ask them. At any time, if you need clarification of a question, or need a question repeated, please let me know. Do you have any questions before we begin?

I would like to start with some background information about how you came to Emily’s school.

1) How did you first learn about Emily’s school?

2) Why did you decide to come to Emily’s school? (Take notes on this question so you can repeat it back later on for the student’s reference)

3) Many students have concerns about enrolling in, switching to, or changing to an alternative learning program. What concerns did you have, if any?

4) In what ways have previous learning environments/teachers met your needs? (Prompt for specific examples if needed)
5) In what ways have previous learning environments/teachers not met your needs? 
(Prompt for specific examples if needed)

I would now like to move on to the issue of learning differences. Some schools have 
programs that try to address the differences in how children learn. Other schools have 
more standardized curricula and teaching methods. As you may know, this learning 
center attempts to use student differences as a way to organize teaching and learning. I 
have a chart here that shows some of the learning differences that Emily has explored this 
year. (Show chart. Allow students to look over it. Read the information on the chart, so 
each student knows what it says.)

1) Which of these learning differences are you familiar with?

2) Do you believe people learn differently?

3) In what ways are you a unique learner? (Another way of asking this is How do 
you learn best?)

4) Can you describe ways in which Emily has successfully met your needs? (Prompt 
for specific examples if not given)

5) Can you describe ways in which Emily could improve in meeting your needs? 
(Prompt for specific examples if not given)

Emily’s program here with Pacific View is an alternative education program. I would 
now like to talk about what makes this program different from traditional public school 
programs, as well as what this program has in common with traditional public school 
programs. The first two questions are about the factual differences and similarities. Try 
to save your feelings about the differences and similarities for the third question, if you 
can. A factual item might be the number of kids, the length of the school day, or the 
type of activities you did in math. A feeling item might be the way you felt on Monday 
mornings, the way you felt when you started math, or how you felt about your peers. 
(Take notes during this section for prompting during #3)(Smiegal 2 will compare this 
school to previous charter schools)

1) In what ways is this school similar to your previous schools? (Or, what does this 
school have in common with your previous schools?)
2) In what ways is this school different from your previous schools?

3) What do you think about those similarities and differences? *(Prompt for specifics by going back to what they said in 1 and 2)*

Following up on your descriptions of the similarities and differences, I would now like to talk about the impact those differences have had on your experiences at school this year. Emily is curious about academic, social, and emotional impacts, as well as attitude toward learning and school in general. I want to hear about any positive and negative impacts, as well as any lack of impacts. I have a chart explaining what I am going to say, for your reference. *(Show chart while you describe and ask the questions).*

1) Academic learning includes knowledge and skill acquisition as well as thinking and problem solving skills. How would you describe how this school year has impacted your academic learning? *(Prompt for positive, negative, and neutral impacts, as needed; ask for several specific examples to illustrate abstract judgment statements)*

2) Attitude is your feelings and behaviors, both internal and external, about something or someone. How would you describe how this school year has impacted your attitude towards school and learning? *(Prompt for positive, negative, and neutral impacts, as needed. ask for several specific examples to illustrate abstract judgment statements)*

3) Social growth includes your ability to work with, understand, and appreciate yourself and others. How would you describe how this school year has impacted your social growth? *(Prompt for positive, negative, and neutral impacts, as needed. ask for several specific examples to illustrate abstract judgment statements)*

4) Emotional growth includes your ability to understand your feelings and emotions, and learn how to work with them. How would you describe how this school has impacted your emotional growth? *(Prompt for positive, negative, and neutral impacts, as needed; ask for several specific examples to illustrate abstract judgment statements)*

Finally, I want to go back to your reasons for attending this school. You said (Re-read what they said for the first question #2). I want to talk about how your reasons have been met.
1) Looking back on why you decided to attend this school, what do you think now, a year later?

Those are all the questions I have for you.

1) Do you have any questions or concerns about what is happening in this school?  
   (List these, so I can promptly address any pressing concerns)

2) Is there anything else you would like to say about your experiences this year as a student at Emily’s school?

Closure
Thank you for your time. Your interview will provide necessary information for Emily’s research. If you have any questions about this interview, please contact Emily. If I need to ask you some follow-up questions, would you be willing to meet again for 15-20 minutes? _________. Thank you. That officially ends our interview. I am turning off the tape recorder now.
Appendix D: Parent Interview Protocol

Parent Interview # _____________ (Student Interview # _______)
Date:_______________________  Location: ___________________
Interviewee: _________________

Hello, My name is _____________________. I am a student at HSU, and I am helping Emily Gibson conduct interviews for her research and Master’s Thesis. Emily would like to record your interview. Only Emily will listen to the taped interviews in the process of writing her Master’s Thesis. She will keep the tapes in a locked cabinet, and will destroy the tapes after her thesis is published. To protect the identity of others, Emily will give pseudonyms (fake names) to any schools or teachers that you name in the course of this interview. Do I have your permission to tape record this interview? _________. Thank you! Now I need you to pick a pseudonym (fake name) to protect your anonymity or identity. What would you like to be called? ____________.

I want to talk with you about your experiences as a parent of a student attending Emily Gibson’s Learning Center on Spear Avenue in Arcata. Specifically, I hope to learn more about your perceptions of how Emily teaches and how your child has responded to that teaching. During this interview, I will give you a copy of the questions, so you can see them in writing as well as hear me ask them. At any time, if you need clarification of a question, or need a question repeated, please let me know. Before we begin, do you have any questions or concerns about the interview?

I would like to begin with some background information about how you came to Emily’s learning center, which is an alternative learning program, or a learning program different than traditional public schools.

6) How did you first learn about Emily’s learning center?

7) Why did you decide to enroll your child in the Learning Center? (Take notes)

8) Many parents have concerns or reservations about enrolling in, switching to, or changing to an alternative learning program. What concerns or reservations did you have, if any?
9) In what ways have previous learning environments met your child’s needs? Environment might include class size, the classroom, school atmosphere, the bus, sports, playground, lunchroom, office, etc.

10) In what ways have previous teachers met your child’s needs?

11) In what ways have previous learning environments not met your child’s needs?

12) In what ways have previous teachers not met your child’s needs?

These next five questions examine your perspective of your child’s school experiences by looking at your own elementary school experiences.

1) How would you define “School?”

2) How would you define “Learning?”

3) Could you briefly describe how you experienced elementary school as a child? (prompt for examples or anecdotes if interviewee gives generalizations)

4) If your child’s other parent is not being interviewed, could you briefly describe his/her experiences in elementary school? (prompt for examples or anecdotes if interviewee gives generalizations; I would prefer learning about biological parents if the parent asks)

5) Could you briefly compare your own experiences with your child’s experiences in previous schools? (Sub questions are: How have they been similar? How have they been different?)

I would now like to move on to the issue of learning differences. Some schools have programs that try to address the differences in how children learn. Other schools have more standardized curricula and teaching methods. This learning center uses student differences as a way to organize teaching and learning. I have a chart here that shows some of the learning differences Emily has explored this year.

6) Which of these learning differences are you familiar with? Which ones are new to you?
7) Do you believe children learn differently?

8) In your opinion, what is a school’s responsibility for responding to learning differences?

9) In what ways is your child a unique learner?

10) Can you describe ways in which Emily has successfully met your child’s needs?

11) Can you describe ways in which Emily could improve in meeting your child’s needs?

As we talked about earlier, Emily’s program is an alternative education program. I would now like to talk about what makes this program different from traditional public school programs, as well as what this program has in common with traditional public school programs. The first two questions are about the factual differences and similarities. Try to save your feelings or thoughts about the differences and similarities for the third question. A factual item might be the number of kids in the class, the length of the school day, or the type of activities your child talks about at home. Feeling or thought items might include your reaction to the learning activities your child completed, your feelings related to the way your child felt about school, or your thoughts about how many students are in an ideal class. *(Take notes during this section for prompting during #3)*

4) In what ways is this school similar to your child’s previous schools?

5) In what ways is this school different from your child’s previous schools?

6) What do you think about those similarities and differences? *(Prompt for examples or specifics as needed)*

Following up on your descriptions of the differences, I would now like to talk about the impact those differences have had on your child’s experiences at school this year. I am curious about academic, social, and emotional impacts, as well as attitude toward learning and school in general. Let’s start with the impacts. I am interested in both positive and negative impacts, as well as any lack of impact. Here is a chart that lists the categories, to help you understand what Emily is referring to. *(Show chart while you describe and ask the questions)*
5) Academic learning includes knowledge and skill acquisition as well as thinking and problem solving skills. How would you describe how this school year has impacted your child’s academic learning? (ask for several specific examples to illustrate abstract judgment statements; prompt for negative, positive, and neutral)

6) Attitude is a person’s feelings and behaviors, both internal and external, about something or someone. How would you describe how this school year has impacted your child’s attitude towards school and learning? (ask for several specific examples to illustrate abstract judgment statements; prompt for negative, positive, and neutral)

7) Social growth includes a person’s ability to work with, understand, and appreciate yourself and others. How would you describe how this school year has impacted your child’s social growth? (ask for several specific examples to illustrate abstract judgment statements; prompt for negative, positive, and neutral)

8) Emotional growth includes a person’s ability to understand and monitor their own feelings and emotions, and learn how to work with them. How would you describe how this school has impacted your child’s emotional growth? (ask for several specific examples to illustrate abstract judgment statements; prompt for negative, positive, and neutral)

Finally, I want to go back to your reasons for attending this school. You said (Re-read what they said for the first question #2). I want to talk about how your reasons have been met.

1) Looking back on why you decided to enroll your child in this school, what do you think now, a year later?

Those are all the questions I have for you.

3) Do you have any questions or concerns about what is happening in this school? (Please list so I can address any pressing needs)

4) Is there anything else you would like to say about your experiences this year as a parent at Emily’s school?

Closure
Thank you for your time. Your interview will provide necessary information for Emily’s research. If you have any questions about this interview, please contact Emily.
If I need to ask you some follow-up questions, would you be willing to meet again for 15-20 minutes? ___________. Thank you. That officially ends our interview. I am turning off the tape recorder now.
Appendix E: Differences in Learning

Multiple Intelligences
  Verbal-Linguistic
  Visual-Spatial
  Kinesthetic
  Logical-Mathematical
  Interpersonal
  Intrapersonal
  Naturalistic
  Musical

Learning Styles
  Auditory
  Verbal
  Motor or Kinesthetic

Demographic Differences
  Age
  Gender
  Ethnicity
  Religion
  Family Background

Emotions and Learning

Ability and Experience

Personal Interests
Appendix F: Definitions of Types of Learning

Academic
- Facts, skills, steps, procedures, concepts, rules, principles
- “Subjects taught in school”
- Knowledge and skills as well as thinking and problem solving.
- Using a ruler, calculating the size of a box, writing a letter to the editor, knowing how to use simple machines, using a computer…

Attitude
- Feelings and behaviors about yourself, other people, places, and things…
- How you feel about your job, a subject in school, or your learning ability can influence your attitude, and your attitude can influence how well you perform.
- Completing work, communicating, time and effort…

Social
- A person’s ability to work with, understand, and appreciate yourself and others.
- Solving problems, sharing, playing, teaching others, and learning from others.

Emotional
- A person’s ability to understand and monitor their own feelings and emotions, and to learn how to work with them.
- Also understanding the emotions and feelings of others. Empathy.
Appendix G: Cover Letter to Participants for Transcript Review

Dear Research Participant       June 29, 2003

Thank you again for your willingness to act as a participant in the research I am conducting for my master’s thesis at Humboldt State University! This project would not be possible without the generosity of your time and the thoughtfulness of your responses. I am now finished with translating the interviews from audiotape to written words. Did you know that it takes two-three hours to translate one hour of tape? Beginning to analyze the data is the next step, one I am eagerly awaiting. However, before I get into that phase, I need to make sure that what I heard on the tapes is what you said, or meant to say.

Attached to this cover letter you will find the written transcription from your own interview. Please take some time to read through your words. You may see some highlighted areas, which are places where I wasn’t sure of what you exactly said. In these areas, it would be helpful if you could verify or clarify your words. As you read, you may discover that I have inaccurately recorded what you said. If this is the case, please correct any mistakes I made.

In addition, if you have additional thoughts to add, as you read, please do so by writing in the margins or attaching a separate paper indicating what question the information pertains to.

Once the transcription meets your approval, please return it to me in the enclosed stamped, self-addressed envelope. Then I can make any needed changes before I begin using the data.

Again, thank you for your time. I look forward to being able to show you the final results.

Sincerely,

Emily Gibson
egibson@northcoast.com
(707) 839-0486
1527 Whitmire Ave., McKinleyville, Ca. 95519

Note: Interviewer’s words are in bold, your words are in italics.
Appendix H: Prompt Guidelines for Interviewers

Types of acceptable prompt questions/phrases:

Can you explain what you mean by ____________?

Can you give an example of that?

What does that mean to you?

Does this question need more explanation?

If you think of something more, later, let me know.

Tips for Interviewees:

Use encouraging phrases, as a listener would do, along with eye contact and facial gestures of listening.

If a question seems too complex, break it down.

It is okay if someone has nothing to say about a question, if you think they really understand what the question is saying.

Try not to put words into an interviewee’s mouth.

Prompt questions should lead deeper into the original question and stay focused on the theme of the question. However, sometimes an interviewee may go off topic. It is taking too long, and doesn’t seem to be related, gently direct back to the question without offending or alienating interviewee.