Differentiated Instruction: Perceptions of Middle School Principals Across Middlesex County, New Jersey

Fredrik Martin Oberkehr
Seton Hall University

Follow this and additional works at: https://scholarship.shu.edu/dissertations
Part of the Junior High, Intermediate, Middle School Education and Teaching Commons

Recommended Citation
https://scholarship.shu.edu/dissertations/372
DIFFERENTIATED INSTRUCTION: PERCEPTIONS OF MIDDLE SCHOOL PRINCIPALS ACROSS MIDDLESEX COUNTY, NEW JERSEY

BY

FREDRIK MARTIN OBERKEHR

Dissertation Committee

Anthony Colella, Ph.D., Mentor
Mario Barbiere, Ed.D.
Lillian DeSimon, Ed.D.
Rev. Christopher Hynes, D.Min.

Submitted in Partial Fulfillment for the
Requirements for the Degree
Doctor of Education
Seton Hall University
College of Education and Human Services
Department of Education Leadership, Management and Policy
2008
APPROVAL FOR SUCCESSFUL DEFENSE

Doctoral Candidate, Fredrik Oberkehr, has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this Spring Semester 2008.

DISSERTATION COMMITTEE
(please sign and date beside your name)

Mentor: Dr. Tony Colella

Committee Member: Dr. Chris Hynes

Committee Member: Dr. Mario Barbiere

Committee Member: Dr. Lillian DeSimon

External Reader:

The mentor and any other committee members who wish to review revisions will sign and date this document only when revisions have been completed. Please return this form to the Office of Graduate Studies, where it will be placed in the candidate's file and submit a copy with your final dissertation to be bound as page number two.
Abstract

The purpose of this study was to examine the perceptions of middle school principals across Middlesex County, New Jersey of differentiated instruction. Specifically, the researcher sought to answer each of the following research questions:

1. To what extent does differentiated instruction create a climate for learning?

2. To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student?

3. To what extent does differentiated instruction influence assessment strategies that lead to modification of assignments and curriculum?

4. To what extent does differentiated instruction impact student achievement of high curricular expectations in middle schools?

The sample population consisted of 10 principals selected at random from a total population of 35 principals across 23 school districts. Of the 10 principals selected, 2 were recent appointees and did not meet the criteria of the study.
The researcher used the interview to collect qualitative data relevant to the aforementioned research questions. There were some clear conclusions drawn based upon the patterns and themes identified from the data. One conclusion made based on the data collected relevant to research question 1 was that differentiated instruction builds social capacity by creating collaborative networks from which students may work. Using instructional strategies employed through differentiated instruction, it was concluded that these strategies address the learning styles and multiple intelligences providing the opportunity to improve student achievement. It was concluded that differentiated instruction addressed assessment. It was not clear if the potential of that data was being utilized to its fullest potential. Lastly, the principals interviewed clearly pointed to the general and overall positive behaviors exhibited by students and teachers as well. When children are stimulated, encouraged, challenged just beyond their ability, a state of "flow" can exist and students will eagerly embrace learning, particularly at the middle school level.

Recommendations for Future Research

1. A study of middle school principals from another county and compare the results.
2. A study that examines solely student diversity and differentiated instruction.

3. A study that examines solely assessment and differentiated instruction.

4. A study that examines solely classroom climate and differentiated instruction.
ACKNOWLEDGEMENTS

I would like to begin by thanking my wife Sharon for her support and encouragement throughout the entire process. Without her, it would have been impossible for me to pursue the degree of doctor of education. I would also like to mention my two daughters, Hannah and Leah, and my son, Matthew. It is in their eyes that I see my future.

I would like to thank all of the faculty and staff in the Department of Education Leadership, Policy and Management at Seton Hall University, especially Dr. Caufield, director of the Executive Ed.D. program and Dr. Colella, my dissertation mentor. I would also like to thank my committee members, Dr. Barbiere, Dr. DeSimon and Rev. Hynes. Their input and willingness to assist me is what made this study successful.

I would be remiss if I did not acknowledge my father, Robert and late mother, Lois, for believing in me and instilling in me a love for life-long learning. And, more notably, they taught it that it is more important to serve others rather than to be served.

Lastly, if it were not for my brethren in Cohort IX and their constant encouragement, I am sure that I would not have made it through. They are the finest group of
professionals with which I have had the distinct pleasure of associating.
# TABLE OF CONTENTS

**ABSTRACT**  

**ACKNOWLEDGEMENTS**  

**LIST OF TABLES AND FIGURES**  

### I  INTRODUCTION

- Purpose  
- Research Questions  
- Significance of the Study  
- Delimitations  
- Limitations  
- Definition of Terms  

### II  REVIEW OF RELEVANT RESEARCH AND LITERATURE

- Introduction  
- Need for Differentiated Instruction  
- Differentiation Instruction  
- Climate for Learning  
- Student Diversity  
- Assessment  
- Student Achievement  
- The Middle School  
- Summary  

### III  METHODOLOGY

- Purpose Statement  
- Population  
- Research Procedures  
- Interview Questions  
- Data Analysis  
- Summary  

### IV  PRESENTATION AND ANALYSIS OF FINDINGS

- Introduction  
- Nature of Study  
- Presentation and Analysis of Findings  
  - Research Question 1  
  - Research Question 2  
  - Research Question 3  
  - Research Question 4  
- Summary
List of Tables and Figures

Figure 2.1 18
Table 1 46
CHAPTER ONE

INTRODUCTION

The Problem

Education has been attempting to change in response to a rapid economic transformation into a global economy. With the shift into the information age, it is just not possible to teach in a classroom and ignore the individual differences that children bring with them. Strategies and practices that rely on recall and recite, drill and practice, and part to whole have been used consistently throughout the twentieth century. Today, teachers face a more challenging landscape that is constantly changing. There are many factors that have caused these persistent changes in the classroom. Gregory and Chapman (2002) explain the need in education for the differentiation of instructional practices:

1. Multicultural diversity: continuous influx of immigrant children with little or no communication skills or competencies in English.

2. Student diversity: unique learning styles and different levels of multiple intelligences.

3. New cognitive research on human learning: knowledge of the brain and how it processes memory and makes meaning.

4. Rapid societal and technological change: political and economic revolutions that influence what and how learning takes place.
5. High expectations for all students: no longer can we leave children behind and just "spray and pray" for success (p. xi).

All of these factors have had a tremendous influence on the ability of teachers to teach and students to learn. Each child has a specific learning modality that must be addressed in order for all children to meet high expectations and standards. The "one-size fits all" model of instruction, therefore, cannot possibly reach all students in a classroom (Skowron, 2001). Today, children and teachers are finding themselves in unfamiliar surroundings in the classrooms with very different expectations and a need for a way to address them.

Standards are certainly nothing new. No Child Left Behind (NCLB) culminates more than four decades of federal expansion into public education. NCLB is recent federal legislation that holds all students to high standards which includes high stakes testing along with severe mandates and sanctions. Beginning largely with the Elementary and Secondary Education Act (ESEA) of 1965, ESEA appropriated $2 billion in its initial year to help states improve educational opportunities for the underclass. With various revisions ranging from Improving America’s Schools Act (IASA) in 1994 to Goals 2000: Educate America Act, the federal government, under NCLB, now pressures public schools to address a number of inadequacies in public
education through NCLB. The requirements placed on states to increase testing, ensure a highly qualified teacher in every classroom, and hold schools accountable for the performance of all students, are associated with much harsher penalties. For example, the state is allowed to replace school personnel responsible for failure to achieve annually yearly progress (AYP), extend the school day or year, change the curriculum, or restructure the school and open it as a charter school under private management. Since many Americans consider education the opportunity for upward mobility and the key to greater social success, the implementation of NCLB is a major shift from providing quality schools for all students to making sure that all students achieve proficiency in learning based on rigorous standards (Hilyard, 2004). Historically, children from diverse cultural and linguistic backgrounds, those with learning disabilities, gifted and talented students, and others who are victims of poverty and neglect have not fared well in our schools (Maheady, Malleete, & Harper, 1991). NCLB is the latest attempt of the federal government to address high expectations for all students.

Meeting the needs of a diverse student population will become more and more of a challenge for educators if present trends in demographics persist. In 2003 in an article in Phi
Delta Kappan, Futrell, Gomez and Bedden reported that enrollment in public schools has reached 35% or 53 million children from racial and minority groups. They predicted that by the year 2010 this figure might be as high, or higher, than 51%. In the report, National Excellence: A Case for Developing America's Talent, Ross (1993) identifies the need for school reform that respects diversity and gives students the opportunity to develop their talents. The report further recommends that instructional strategies should accommodate those differences by adapting and enriching the curriculum.

In addition to multicultural diversity and a greater pressure to address standards-based reform, educators have begun to recognize the need to understand that human beings are organisms who possess a basic set of intelligences, and that different individuals are stronger in some areas of these intelligences than in others (Gardner, 1993). Gardner discusses eight possible intelligences, which he calls verbal/linguistic, logical/mathematical, bodily/kinesthetic, visual/spatial, musical/rhythmic, interpersonal, intrapersonal, and naturalist. Sternberg (1988, 1997) would classify intelligence in three major categories; namely analytic, creative, and practical. Differentiation based on a student's intelligence profile helps build more capacity to accomplish difficult tasks while
strengthening comparatively weaker intelligences when engaged in more simple objectives (Tomlinson & Eidson, 2003). In addition, evolution in brain research has led to rare insight for teachers enhancing student successes in the classroom (Sousa, 2001). Differentiation within the learning environment can have an impact on students with diverse learning styles and levels of intelligence, as well as addressing memory processing and human learning.

In addition to addressing student diversity, Friedman (2005) explains that the world around us is changing, specifically that it is "flattening" due to the convergence of various historic events. These events and the progressive societal change are greatly due to technology and the ability to compete in a global market. He relates how events such as outsourcing, off-shoring, open-sourcing, supply-chaining and others have converged to level the playing field for competition among nations for goods and services. "It is the complementary convergence of the ten flatteners, creating this new global playing field for multiple forms of collaboration," that has created the need for a shift in educational practices (Friedman, 2005, p. 177). It is obvious that, economically, the shift is from a more vertical administrative structure to one that is horizontal and based on collaboration. Education is the
equalizer in preparing students for the challenges of a flat world.

Theories of middle school organization and habit have been explained extensively by Jackson and Davis (2000). They clearly define the middle school configuration necessary to demand high expectations, develop critical thinking skills, and impart a thorough understanding of essential core objectives. They state that the key to instruction of adolescents is as follows:

1. The curriculum which is based on agreed-upon standards outlining what students should know and be able to do, the concerns of young adolescents, and how students learn best.

2. The assessments students will use to demonstrate their knowledge and skills.

3. The needs, interests, and concerns of the students themselves (p. 64).

These three tenets of instruction, particularly at the middle school level, can be attained through a clear understanding of differentiated instruction. For instance, differentiated instruction does address how students learn best. A student's curricular program takes into account multiple intelligences, learning modalities, and ability. Another example is in the third tenet of instruction. Differentiated instructional strategies are premised on the clear understanding of each student's ability, learning modality, and sense of self. Differentiated instruction compliments the grounded ideology
espoused by Jackson and Davis for middle schools. Lastly, Crawford (2004) indicates that differentiated learning tasks minimize frustration and maximize achievement, particularly among adolescents. Differentiated instruction at the middle school level seems a perfect fit.

Differentiated instruction is a teaching approach that provides a variety of learning options to accommodate differences in how students learn (Skowron, 2001). Teachers who differentiate the learning address instructional needs, the concept of multiple intelligences, learning modalities, cognitive levels, background experiences, and personal interests (Winebrenner, 1992).

The Purpose
The purpose of this study is to analyze the perceptions of middle school principals across Middlesex County, New Jersey. This study will examine those perceptions as they relate to classroom climate, student diversity, assessment, and student achievement towards high expectations as defined by curricular objectives in the middle school.

Research Question
To what extent does differentiated instruction impact student achievement in middle grades across Middlesex County, New Jersey?
Subsidiary Questions

1. To what extent does differentiated instruction create a climate for learning?

2. To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student?

3. To what extent does differentiated instruction influence assessment strategies that lead to modification of assignments and curriculum?

4. To what extent does differentiated instruction impact student achievement of high curricular expectations in middle schools?

Significance of the Study

Consistent with educational reform efforts, the concern was providing all students with clear, focused learning objectives designed to build enduring understanding (Drapeau, 2004). In addition, with the advent of the No Child Left Behind (NCLB) legislation enacted by President Bush on January 8, 2002, that concern is growing, especially with higher standards and more accountability in conjunction with such educational practices as heterogeneous grouping, de-tracking and inclusion of children with learning disabilities (Heacox, 2002). Differentiation of instruction is required for teachers in heterogeneous classrooms
Differentiation

in order to meet the needs of all their students (Tomlinson & Eidson, 2003).

Instructional practices in the differentiated classroom ensure that the needs of all students are met (Forsten, Grant, & Hollas, 2003). Research indicates that students identified as gifted and talented, those who suffer with learning disabilities, or those who are victims of poverty, are traditionally underserved by schools (Gardner, 1983). Most teachers agree that responding to individual differences is critically important for today's diverse classrooms (Tomlinson, 2001). Therefore, with NCLB and the need for instructional strategies that address programs and practices with an approach to learning for each student, the implementation of differentiated instruction can help to pave the way for quality teaching and learning.

Delimitations

This study is limited to middle schools located in central New Jersey. It is further recognized that the focus is solely on middle level education.

Limitations

The following limitations are inherent in the study. This study is restricted to middle schools located in Middlesex County, New Jersey. Generalizations cannot be made for other
grade levels or other counties or provinces. Since the data was collected using one to one interviews, the responses were dependent on the subjective attitudes and perceptions of the participants.

Definition of Terms

Accountability is the act of being responsible.

Active learning is a strategy of differentiated instruction by which a teacher adjusts and poses analysis and synthesis or evaluative questions based on student readiness, ability and/or interest levels.

Adjusting questions presupposes analysis, synthesis or evaluation on student readiness levels.

Alignment is an educational improvement strategy arranging curriculum and the delivery of instruction so that it is consistent with the school district mission and vision.

Anchor activities are provided to children who have completed the class assignment to reinforce basic knowledge objectives.

Assessment is described as the method of evaluating a child’s success and mastery of a particular set of learning objectives.

Benchmarks are used to describe an individual reference point of achievement. Choice is a strategy of differentiated instruction used to allow students to participate in the decision making
Differentiation

process for the topic of study fostering student motivation, achievement, engagement, and productivity (Tomlinson, 2003). Compacting out is one strategy of differentiated instruction by which teachers pre-assess what students know and what they need to master. A teacher plans for teaching what is not known by the students and enriches or accelerates students, as needed, reducing unnecessary repetition.

Cubing is a technique to differentiate the learning environment to address the needs of learners of varied ability. Differentiated instruction is a process that addresses individual differences in learning styles, interests, prior knowledge, and cognitive strengths.

Flexible grouping is a differentiated instructional strategy where students are grouped in a variety of ways, for example, there may be a particular instance to group children by their learning style, or perhaps by ability, or mixed ability. Gifted and talented students are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their greatest potential.
Heterogeneous grouping is a method of grouping students who have varying abilities, learning profiles, racial and ethnic origins and socio-economic backgrounds for the purpose of instruction. Inclusion is a strategy used to include special education children in a regular classroom setting. It allows special education students to be served in the least restrictive environment in which a regular education teacher and a special education teacher collaborate knowledge to meet the unique needs of all the students.

Interdisciplinary lessons are strategies to differentiate the instruction by examining a central theme, issue, problem, topic or experience from across content areas employing varying methodologies in order for students to make meaningful connections between disciplines.

Inquiry learning is a strategy used by teachers to facilitate student learning causing them to apply, elaborate, and synthesize information.

Leadership is critical to educational performance. School leaders make the connection between vision and classroom practice based upon research and best practices to meet the needs of all learners.

Learning centers is a differentiated instruction strategy tying curriculum objectives to student interest. The teacher may
allow students to use higher order thinking skills and processes
(i.e. application, elaboration, synthesis).

*Observation* entails agreement between observer and observed on
what is observed, the type of information recorded, the time of
the observation, and how the observations will be evaluated.

*Professional development* is a results-driven, systematic series
of learning experiences for teachers that result in an increase
in knowledge, skills, and performance.

*Tiered assignments* are another strategy of differentiated
instruction. The teacher uses varied levels of activities to
ensure that students are engaged. Students explore ideas at a
level that builds on their own prior knowledge. Using tiered
assignments promotes student engagement in the work of learning
and student achievement.

**Summary**

This chapter presented background information pertaining to
differentiated instruction. It introduces the purpose, the
problem, the research questions, the significance of the study,
and the definition of key terms used in the study.
CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter represents a review of the literature and research relevant to the topic of this study. It has been presented in the following sections. The first section is a brief background on the need for differentiated instruction. The second section describes differentiated instruction and the strategies associated with it. The third section presents the literature on climate and its impact on student achievement. The fourth section discusses student diversity and how differentiated instruction addresses the variety of ability levels present in today's classroom. The fifth section discusses assessment and how assessment strategies impact the learning environment. Lastly, there is a discussion on middle school theory and how differentiation can influence learning, particularly at this level of education.

Need for Differentiation

In order to serve the ever-changing needs of a diverse society, change in pedagogy is necessary to meet individual differences in student learning and comprehension (Tomlinson, 2003). Addressing the needs, interests, readiness, and abilities of the individual learner has been identified
throughout the literature, including respected authorities on educational theory such as Dewey and Piaget (Heacoux, 2002). Cantor (1946, 1972), writing about the uniformity in schools, recognized the need to identify the individual differences that are evident in classrooms. He stated, "That there are individual differences in learning that have been recognized in theory as often as they have been denied in practice" (p.185). In order to respect student needs, interests, readiness, and abilities, it was the recommendation to use differentiated instruction which can be traced back to some of the most respected voices in education. To approach the teaching process for deep understanding, the teacher must have a clear focus, knowledge of best practices, and the understanding of how each student thinks and solves problems. Differentiation is a strategy that enables teachers to take advantage of the individual differences. In order to establish the background for this study, it was essential to present the following sections: a) Differentiated Instruction, b) Climate for Learning, c) Student Diversity, d) Assessment, e) Student Achievement, and f) the Middle School.
Differentiated Instruction

It was concluded from the works of Dewey and Piaget that the extent of knowledge gained is as a result of the individual constructions made by the learner. Bruner (1961) had built upon the theory that advocates for student engagement in the inquiry process. Bloom (1984) defined the different levels of thought by describing the graduated levels of thought needed to solve problems and construct meaning. Differentiated instruction is the ability to consistently implement a variety of instructional practices to modify content, process, and product in response to readiness and area of interest (Tomlinson, 1999). According to Parke (1989), the essential guidelines for differentiated instruction were as follows:

1. The program should be characterized by a flexibility to respond to the individual needs of the students;

2. Program options should be in place so that the varying skills, abilities and interests of the students can be accommodated;

3. Patterns of grouping students should be based on the unique needs of the students and should allow students to progress at their own pace; and

4. Decision-making should be based on students' needs. Individualized program planning should take place for all students (p. 44).
In addition, Tomlinson (1999) further identified key components of differentiated instruction resulting in teachers taking a meaningful approach to actively engage the learner.

Differentiated instruction is guided by student-centered principles that help to ensure that students participate in activities that are at, or close to their, optimal learning level (Skowron, 2001). By creating tasks that are respectful, making use of flexible grouping, and adjusting curricular goals based on individual performance assessments, the teacher could differentiate the content, process, and product accordingly (Tomlinson, 2001). Figure 2.1 on page 19 represents a flow chart that organizes thinking about differentiation (Tomlinson, 1999, p. 15). Differentiation allowed teachers to use a variety of tasks that address the readiness, interest, and learning profile of each student. Clearly, when students are engaged and challenged, they are motivated and invested in the learning. Differentiation helps to bridge the learning to personal and real life experiences. In short, research supports teaching strategies that address individual student needs and interests (Skowron, 2001).
Figure 2.1

**Differentiated Instruction**

is a teacher's response to the learner's need

guided by general principles of differentiation such as

- respectful tasks
- flexible groupings
- Ongoing assessment and adjustment

Teachers can differentiate

- Content
- Process
- Product

according to student's

- Readiness
- Interests
- Learning Profile

through a range of instructional and management strategies such as

- multiple intelligences
- Jigsaw
- taped material
- anchor activities
- varying organizers
- varied texts
- varied supplemental materials
- literature circles
- tiered lessons
- tiered centers
- tiered products
- learning contracts
- small-group instruction
- group investigation
- orbitals
- independent study
- 4MAT
- varied questioning strategies
- interest centers
- interest groups
- varied homework
- compacting
- varied journal prompts
- complex instruction
Various strategies are employed or adapted in order to differentiate the learning environment. Cooperative learning, for example, promotes positive social interaction which has enhanced learning. Teachers could modify cooperative learning groups by varying each arrangement either by ability, or learning style, or mixed ability. Another example is individualized learning which allows for students to share in the decision making process and decide the content, process and product. This provides the opportunity for students to act independently (Tyner, 2004). Compacting out was yet another opportunity to differentiate the learning environment. If, for example, a student can demonstrate skills that others cannot, he advances in the curriculum until a benchmark is established from which to work. Lastly, learning centers could be used in a variety of ways. They could be designed for partners, small groups or for individual learning. Each learning center is generally tailored to learning style, ability, or mixed ability. Strategies of differentiated instruction are, by design, strategies that address cognitive levels, learning modalities, multiple intelligences, and the instructional needs of each individual student (Wormeli, 2001).
Czikszentmihalyi and Czikszentmihalyi (1988, 1990, 1997) established the theory known as flow where the key component is student interest. Flow is described as being totally involved in an activity so intently that students are so absorbed to the exclusion of all else. And, once having experienced the intellectual satisfaction of flow, they were willing to complete the work necessary to experience it again. Collins and Amabile (1999) wrote of the practice of maximizing student productivity by allowing them to incorporate personal interest resulting in greater achievement. Teachers that differentiate the learning environment based on student achievement could take advantage of a student’s intrinsic motivation to learn and enhance creative thinking (Brophy, 1999). Tomlinson (1997) stated, “Effective learning must begin where the learner is, to promote growth at a level of moderate challenge discarding the premise that a one-size-fits-all in increasingly diverse classrooms” (p.97).

Lastly, public school districts and their leadership have faced significant challenges because public schools are an inclusive society (Hilyard, 2004). Instructional leaders that foster system-wide use of differentiated instruction focused on a vision that addresses the uniqueness of each child, making it a reality (Tomlinson, 1997). Leaders could influence and shape a school environment to create a culture for differentiation to
occur (Patterson, 1993). The school day could be structured and time allotted to encourage teacher cooperation, and more importantly, their collaboration in and planning of team oriented projects with interdisciplinary curricular objectives (Lambert, 2003). In their ability to influence the schedule of the school day, school leaders could remove the barrier of time for teachers, so that they can facilitate the use of differentiated instruction in the classroom.

Climate of Learning

With diversity ever more prevalent in schools today, the climate in a classroom could be critical to the success of differentiated instruction. Yet, underneath this student diversity, there are fundamental essential elements that all learners need in order to feel positive about the experiences they encounter and to succeed in achieving the goals placed on them. It is important to remember that it is the teacher’s mental model that has a profound impact on the learning climate as well as on the learner’s state of mind (Caine & Caine, 1997). Gregory and Chapman (2002) state effective teachers believe that there is potential in each learner, and commit to finding the key that will unlock that potential (p. 2).

Culture is described as “the process by which things get done.” Culture is not necessarily quantifiable, however
people certainly perceive and sense that it exists. DePorter, Reardon, and Singer-Nourie (1998) caution teachers that what they say and do and how they act has an effect on learners and their perception of their own ability. In addition, it was clear that the human brain reacts to peripheral stimuli that includes the surrounding environment, as well as to gestures and other subtle clues that convey meaning interpreted by the brain. These impulses could facilitate or inhibit ordinal functions such as perception, emotional response, learning and decision making. Classrooms have needed to foster an environment of mutual respect and understanding to minimize the impact of stress by creating an environment that is supportive to learning. Thus, teachers must consider where their students are academically, socially, and emotionally in order to prepare to plan learning experiences just beyond the level of each individual learner (Gregory & Chapman, 2002). This will establish the state of "flow" where learners are engaged, interested in the learning, challenged, and receive the feedback so that learning is paramount to the exclusion of all else (Csikszentmihalyi, 1990).

Research has shown that using reward and punishment inhibits creativity, interferes with intrusive motivation, and reduces the likelihood of meaningful learning (Caine & Caine,
1997). The emotional environment interacts with instruction and influences how information is consolidated.

Emotional intelligence is the ability to use one’s emotions to maintain a balance between reason and emotion. Goleman (1998) classifies emotions into one of five domains: self-awareness, managing emotions, self-motivation, empathy, and social skills. Self-awareness provides the opportunity to share frustrations, and as a result, teachers can encourage students to articulate their feelings in order to seek and give support. Managing emotions is an outcome of recognizing and labeling feelings. Teachers need to take the opportunity to use “teachable moments” to generate alternative methods of appropriate dealing with feelings to resolve conflicts. Self-motivation consisted of the ability to perceive goals, and delay gratification. Creating an environment that produces a state of “flow” is an integral part of providing a state of high challenge and low threat resulting in more learning. Empathy is the ability to feel for another. Feeling for others, students could imagine how others feel in a variety of settings which builds tolerance and understanding. Social skills are the ability to manage emotional interactions. Teachers who have identified and modeled these competencies demonstrate the value of emotional intelligence in their personal interactions.
There are a variety of classroom techniques and strategies to address climate in the classroom. In order to help students feel as though they have input on classroom rules and procedures, some teachers develop "Agreements" or "Trust Statements" to help students become responsible learners and more emotionally intelligent (Gibbs, 1995). In addition, questioning techniques have proven that as teachers get to know their students better, these are an effective tool for differentiating the level of complexity. It is important to remember during questioning that providing sufficient "wait time" for student responses gave the student time to access long-term memory and formulate an answer of high quality. Teachers should have been familiar with Bloom's Taxonomy when developing questions that check for student understanding or assess student comprehension and readiness. Teachers need to ask questions that span the six levels and that are appropriate to the learner's level of comprehension or experience. Lyman and McTighe (1998) presented another technique. "Think, Pair, Share" enabled students to share ideas naturally and gave them the opportunity to access information to formulate better answers. Cubing is another instructional strategy that helps to differentiate learning by readiness (Cowen & Cowen, 1980). Cubing can help students think at different levels and enables
the teacher to address the different levels of Bloom's Taxonomy. Cubes could be designed to address individual learning styles and/or multiple intelligences. Cubing allows students to address issues from a multi-dimensional perspective, as they reinforce understanding and extend or demonstrate learning. The opportunity to examine a problem from different perspectives and different readiness levels, (based on theories of learning such as multiple intelligences and learning styles) promotes a classroom environment that is supportive and a climate that is conducive to learning.

Differentiated instruction is difficult, risky, and time-consuming by nature for most teachers. Teachers will not have undertaken and, more likely, will not sustain a differentiated approach to teaching without the strong, focused, and practical support of the leadership. To maximize the daily efforts of teachers in classrooms and to encourage system-wide use of differentiated instruction, district leaders and school leaders must have scaffolded teachers in the same manner that teachers must have scaffolded students, who take learning risks in order to achieve higher levels of performance (Hilyard, 2004).

Student Diversity

Although teachers, in general, work with students of nearly the same age, students do have a variety of needs with diverse
learning and thinking styles which call for different instructional classroom strategies. Waldron and McLesky (2001) explain:

The idea of "individualizing" for students with disabilities in general education classrooms sounds overwhelming. Many classroom teachers think that only special education teachers can individualize. Classroom teachers don't believe that they can individualize instruction for 10% of the class without jeopardizing the learning for the remaining 90%. They perceive individualized instruction to be a responsibility that is nearly impossible and often they resent any movement for including students with disabilities in their school (p.176).

Differentiated instruction specifically addresses the notion of the ability to individualize not only for special education students, but for all students. Wadsworth (1974) indicated the need for the curriculum to adjust for individual cognitive ability; for without the prerequisite cognitive skills learning will not take place. Robinson (2004) indicated that Piaget's Cognitive Theory might be the framework for teachers to create a learning environment and framework for learning derived by individual child experiences. In addition, if curricula do not respect the level of each child's conceptual development, learning would be ineffective and inefficient (Wadsworth, 1974). Robinson (2004) further explained that differentiated instruction essentially means that teachers will set expectations according to the ability level of each student.
In addition, Grigorenko and Sternberg (1997) found that where learning experiences are matched with ability level, learning patterns, multiple intelligences, and personal interests of students, students achieved significantly better as compared to instructional strategies that are not matched. Hobson (2004) referred to a study that found teachers who had addressed multiple-intelligences demonstrated a more flexible approach in meeting the needs of the non-traditional learner than teaching traditionally using direct instruction. Hobson further stated that it is this country's diversity that makes it unique; however, that diversity posed real challenges to education, especially when educators were responsible for preparing today's students for an increasingly global society. Therefore, in order for public schools to educate all students, school districts must guarantee high quality educational opportunities for the ever increasing diverse population in America's schools.


I hope the idea of multiple intelligences will become part of teacher training while lip service is paid to the existence of differences among students (and among teachers!) there have
been few systematic attempts to elaborate the educational implications of these differences. Should a sensitivity to different intelligences or learning styles become part of the "mental models" constructed by new teachers, the next generation of educators is far more likely to be able to reach each of their students in the most direct and effective way (p. 251).

Gardner and Sternberg essentially described theories of multiple intelligences asserting that intelligence was fluid, not fixed, and advancing the necessity of knowing the individual student strengths and building on them in learning situations (Hilyard, 2004).

It was necessary to recognize the individual learner needs to build the capacity to integrate differentiated instructional strategies to engage the culturally different, the learning disabled, the intellectually gifted or the visual/spatial learners. Essential to the instructional leadership of the classroom was on-going professional development to expand teacher competencies in differentiated instruction (Richardson, 1997).

Assessment

Jackson and Davis (2000) defined assessment as information that is meant to provide ongoing, useful feedback, to both students and teachers, on what students have learned relevant to any particular lesson objective or standard.

Assessments were effective if they were an integral part of, and connected to, curriculum and instruction. Curriculum could
basically be divided into three categories. Knowledge and competencies worth "enduring understanding", prerequisites that required mastery and those incidentals that required familiarity (Wiggins & McTighe, 1998). Jackson and Davis (2000) listed a range of assessment methods:

1. Informal checks for understanding, the kinds of activities, like oral questions, observations, and class discussions that occur everyday. Both students' response to teachers' questions and students' questions for teachers serve as a gauge of learning progress. This type of assessment is particularly useful for English language learners.

2. Traditional quizzes and tests, typically made up of multiple choice, true/false, fill-in-the-blank, and short essay questions. Weekly quizzes, for example, can provide a snapshot of the students' group of factual information.

3. Interviews, questionnaires and conferences, all of which gather evidence from students by asking them for it. Interviews and conferences can provide valuable one-on-one time and immediate feedback. Regular interviews and conferences can also help students get better at self-assessment, as teachers indicate how students should prepare and what materials they should bring to a discussion of their progress.

4. Performance tasks and projects, which are both examples of authentic or alternative assessment, so named because it provides an alternative to traditional tests and quizzes. Authentic assessment allows students to provide evidence of their learning in contexts and on tasks that draw on real life and real situations. Performance tasks "require students to actively accomplish complex and significant tasks, while bringing to bear prior knowledge, recent learning, and relevant skills to solve realistic problems".
It was authentic assessment that engaged students in learning by enabling them to connect their learning with the real world outside making learning a personal experience (Costa & Kallick, 2000, 2004). For students to meet "work requirements", they needed to think critically, solve problems, make decisions, and collaborate with others (Wiggins, 1998). To meet those work requirements, authentic assessment methods focused on complex tasks allowing students to demonstrate their learning. Authentic assessment challenged students to apply and demonstrate skills and knowledge in different contexts (Earl, 2003). Some related samples of authentic assessment were debates, exhibitions, position papers, scientific experiments, individual and group research projects and portfolios. Authentic assessment has given rise to the use of rubrics and portfolios. Rubrics were generally designed on a point scale ranging from 4-6. Points were awarded based upon performance criteria associated with an authentic assessment task. Rubrics describe exceptional, acceptable, and unacceptable work. Portfolios on the other hand, were a collection of a student’s work. Portfolios are kept over time recording and containing various assortments of finished products. Students were integral in the decision making process for design and contents of the portfolio. The use of rubrics and portfolios changed the
expectation for finished products, and in turn influenced class instruction (Arter & McTighe, 2001). Together with performance-based standards, assessment, albeit authentic rubrics or portfolios, was an essential component to the curriculum and the ensuing instruction. Teachers needed to recognize that assessment could have a direct impact on curriculum. Backwards design, for instance, was based on creating the assessment first and then developing the curriculum to successfully meet the performance-based standards of that assessment.

Student Achievement

Solomon and Firetag (2002) described a valve-added mathematical formula that can predict the efficacy of teachers resulting from the work of William L. Sanders. Sanders said that the single most important attribute of school related factors relevant to student achievement was teacher quality, more so than even socio-economic status. Differentiated instruction was a systematic approach to planning curriculum and instruction for academically diverse learners. Two distinct results of differentiated instruction were honoring each student’s learning needs and maximizing each student’s learning capacity (Tomlinson & Erickson, 2003). There were five classroom elements that teachers could differentiate to increase the likelihood of students learning all they can as efficiently
as they can. They are content, process, products, affect, and the learning environment. In addition, there were three student characteristics that could be differentiated as well. They are readiness, interest, and learning profile. Combining all of these strategies to meet the needs of the individual learner through learning styles, multiple intelligences, and ability, differentiated instruction positively impacts student achievement. Simply based on the opening premise, that teacher quality has the greatest impact, implementing differentiated instruction produces results; sustainable results.

The Middle School

The middle school was a fairly new concept with respect to the history of the educational system. Throughout most of American history, school systems consisted of elementary schools that children would attend for eight years, and comprehensive high schools that they would attend for four years. After the advent of the industrial age there was a reorganization of the system of education. Hence, the emergence of the junior high, a three-year school attended between elementary in the traditional high school. Wheelock (1992) pointed to two additional factors that led to the rise of junior high schools. He stated that the dropout rate and the awareness of need specific to the age of most junior high school students influenced the reorganization
of schools to include the junior high. This finding suggested that student placement, retention, and the dropout rate were significant in the development of the junior high. In addition, due to a growing awareness of the needs of junior high school students and the uniqueness of the age, the call for developmentally appropriate programs led in part to the middle school movement.

Loveless (1998) reported that middle schools began to evolve as a result of junior high schools replicating the high school instruction and programming, and did not address the social and emotional development of the students. By the late 1960s, schools that were focused on skills and academics drew criticism for not addressing the social needs of students (Tomlinson, 1986). Epstein (1987), sometimes referred to as the biggest proponent of the middle school movement, opposed the academically focused junior high school and recommended that schools for adolescents should attend to the social and emotional needs of children. Middle school proponents believed it was the social development that should be a major priority rather than academic goals (Wigfield, 1991). Loveless (1998) noted that tracking was being questioned as an appropriate strategy for middle school students. With the introduction of mainstreaming and inclusion, many educators began a push to
reorganize middle school programs, leading to combining gifted and talented and special education students into the regular classroom (Hobson, 2004). Philosophy, instructional strategies, and elimination of ability grouping in middle schools were the three areas that have emerged requiring the need for differentiation, particularly in middle level education. Middle school students needed to learn skills to help them get along with others, as well as it being a time to develop a sense of self. Gifted children, especially, needed to be presented a challenging curriculum that addressed their individual talents. Since it was perceived that middle school teachers have had no training in the use of differentiated instructional strategies, gifted students generally found themselves grouped homogeneously (Archambault, Dobyns, Slavin, & Westburg, 1993). Tomlinson (1993) and Wheelock (1992) both found that students differed widely in their ability to think abstractly and understand complex ideas. In addition, they noted that detracked schools had developed integrated, thematic curricula, differentiated classroom instruction, and used mixed ability cooperative learning strategies. Oaks (1992) stated that to group students heterogeneously without providing teachers with the appropriate support and training in differentiated instruction would probably lead to disconnected and fragmented curricula.
Theories of middle school organization and habit have been explained extensively by Jackson and Davis (2000). They clearly defined the middle school configuration necessary to demand high expectations, develop critical thinking skills, and impart a thorough understanding of essential core objectives. They stated that the key to instruction of adolescents is as follows:

1. The curriculum which is based on agreed-upon standards outlining what students should know and be able to do, the concerns of young adolescents, and how students learn best.

2. The assessments students will use to demonstrate their knowledge and skills.

3. The needs, interests, and concerns of the students themselves (p. 64).

These three tenets of instruction, particularly at the middle school level, could be attained through a clear understanding of differentiated instruction. For instance, differentiated instruction did address how students learn best. A student's curricular program took into account multiple intelligences, learning modalities, and ability. Another example was in the third tenet of instruction. Differentiated instructional strategies were premised on the clear understanding of each students' ability, learning modality, and sense of self. Differentiated instruction complimented the grounded ideology espoused by Jackson and Davis for middle schools. Lastly, Crawford (2004) indicated that differentiated
learning tasks minimize frustration and maximize achievement, particularly among adolescents. Differentiated instruction at the middle school level seems a perfect fit.

Summary

This chapter presented the literature on differentiated instruction. Three key components were identified to understand the use of differentiated instruction in the classroom. One is the knowledge of differentiation itself. Second is the ability to employ differentiated instructional strategies in the classroom. By improving the climate in the classroom, addressing student diversity, and assessing student progress, differentiation of the learning, especially in middle level adolescents, appears to be a good fit for achieving high academic performance.
CHAPTER THREE

RESEARCH METHODOLOGY

Purpose Statement

The purpose of this study was to collect and analyze qualitative data gathered from the perceptions of middle school principals across Middlesex County, New Jersey, on differentiated instruction. This study examined those perceptions as they relate to classroom climate, student diversity, assessment, and student achievement towards high expectations in middle schools as defined by curricular objectives. Chapter 3 contains information on the population, research procedures, interview questions, data analysis, and summary.

Population

The population consisted of middle principals across Middlesex County, New Jersey. Within the 23 school districts in the county, there are a total of 35 middle schools. From the total eligible population, 10 middle school principals have been randomly selected to participate in the study. Two principals were recently appointed and did not serve during the 2006-2007 school year and did not qualify for the study. Therefore the sample size (N=8) is 22% of the eligible population.
Research Procedures and Techniques for Data Collection

This study was designed using a qualitative research approach. According to Patton (2002), qualitative research must get close to the people and circumstance being examined, aim at what actually takes place and what actually is said, include a pure description of participants, activities, interactions and settings, and include direct quotations from what is said. Lastly, interviews, in particular, must be committed to asking genuinely open-ended questions that offer the opportunity to express personal perspectives.

Data were collected from participants through confidential one to one interviews. Ten middle school principals were chosen at random from the 35 across Middlesex County, New Jersey, to participate in the study. Since the interviews will take place on each school’s campus, the Chief School Administrator was sent a request for approval to conduct the study. In the case of districts that replied affirmatively, the respective middle school principal was sent a reply form and a stamped, self-addressed envelope. Data was solicited whether respondents agreed to participate or not. All respondents agreeing to participate in the interview will sign and date the Informed Consent Form.
The researcher has chosen a qualitative method for data collection to gain an in-depth personal understanding of the leaders of middle level education. Kvale (1996) stated that the use of the interview as a research method is a conversation that has structure and purpose. It goes beyond spontaneous exchange of views as in everyday conversation, and the interview has become a careful questioning and listening approach with the purpose of obtaining thoroughly tested knowledge. Interviewing allows interviewees to put their behavior in context, and provides access to understanding their actions. Casell and Symon (2004) stated that qualitative research interviews may be of great help in examining broader issues related to organizational structures. Interviews were ideally suited for investigating topics in which different levels of meaning needed to be explained.

Interview Questions

Patton (2002) described a standardized open-ended question interview as a set of questions carefully worded and arranged with the intention of taking each respondent through the same sequence and asking each respondent the same questions with essentially the same words. Interview questions were worded carefully and written out in advance exactly the way they were to be asked in the interview. The interview was highly focused
so that time was used efficiently. The exact instrument used was available for inspection by anyone who had interest in the findings. Collecting the same information from each person poses no credibility problem when each person was understood as a unique informant with a unique perspective. The standardized interview format kept the conversation focused and on the topic.

The questions used in this one to one interview were designed based on research and educational findings that indicate differentiated instruction can impact the learning environment in a number of ways. By addressing climate, student diversity, and assessment, differentiated instruction could impact the way students participate in their own learning, particularly at the middle school level.

1. Background Information

1.1 How long have you been a middle school principal?

1.2 How many years have you worked in the field of education?

1.3 Are you familiar with specific strategies that differentiate the learning environment?

2. Climate: Gregory and Chapman (2002) stated that the climate in any given classroom is influenced not only by its physical attributes but also by the complexity, variety, challenge and feedback involved in the learning experience.
2.1 How do teachers plan learning experiences just beyond the level of each student?

2.2 How do teachers create a climate where all students feel included?

2.3 Describe how students are involved in creating a climate conducive to all learning well?

3. Student Diversity: According to Jackson and Davis (2000) teachers could vary instructional strategies to the different ways students learn. If learning styles were integrated into instructional teaching methods, students would have a more positive attitude toward school and more of an opportunity for success.

3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences in the classroom.

3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.

3.3 What experiences are used to engage students in their learning?

4. Assessment: Tomlinson and Eidson (2003) indicated that assessment must be an ongoing process, administered in flexible but distinct stages. Identifying readiness levels,
interest, and learning modalities were critical to successfully differentiate the learning environment.

4.1 Describe methods used by teachers to assess student progress.

4.2 How do assessment strategies affect the curriculum and curriculum renewal?

4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?

5. Student Achievement: Jackson and Davis (2000) stated that curriculum should encompass both sides of the polarity. Concepts and essential questions could function within and across disciplines. Including students in the planning and design of their own learning promoted an integrated approach giving students ownership of their learning.

5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?

5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular expectations in middle schools?
Data Analysis

Interviews were audio tape recorded and transcribed to provide the database for this study. Responses were analyzed to determine patterns and/or themes for each question. To maintain accuracy and anonymity, each subject was assigned a number code. The data was reviewed, and all established patterns by respondents were recorded. Those responses that are not in alignment with the established pattern were also noted.

Summary

The purpose of this study was to assess the perceptions of middle school principals across Middlesex County, New Jersey, on differentiated instruction. The study also examined the key variables climate, learning modalities, assessment, and student achievement. The questions selected for the interview were supported by relevant literature on differentiated instruction. Each question was relevant to the research questions being investigated.

This chapter presented and introduction of the research procedures and methods of data collection and analysis.
CHAPTER IV

PRESENTATION AND ANALYSIS OF FINDINGS

Introduction

The purpose of this study was to collect and analyze qualitative data gathered from the perceptions of middle school principals across Middlesex County, New Jersey, on differentiated instruction. This study examined those perceptions as they relate to classroom climate, student diversity, assessment, and student achievement towards high expectations in middle schools as defined by curricular objectives. This chapter presents and analyzes the data gathered.

Nature of the Study

The research subject population selected for the study consisted of middle school principals across Middlesex County, New Jersey. Each principal was appointed for at least the 2006-2007 school year. There were 35 principals in the total population and the researcher randomly selected 10 to participate in the study. Of those 10, two of those principals were recently appointed in September of the 2007-2008 school year, and therefore did not qualify for the study. The 8 principals represent 22% of the population.
Middle school principals were asked a series of questions related to differentiated instruction. The questions were divided into five sets. The first set of three questions was used to gain background information about years as a principal, years in education, and knowledge of differentiated instruction. The second set of questions dealt with climate and the impact differentiated instruction has on creating a learning environment welcoming to all students. The third set of questions dealt with student diversity and the impact differentiated instruction has on addressing learning styles and multiple intelligences in the classroom. The fourth set of questions dealt with assessment and using assessment to revise and implement the curriculum. In the last set of questions, the researcher was looking for data relevant to the impact of differentiated instruction on student achievement.

Presentation and Analysis of Findings

All 8 interviews took place on each school’s campus in the office of the middle school principal.

The first set of three questions was to gain basic information about the experience of each middle school principal. In this set, middle school principals were asked about the number of years that they have served as a middle school principal, the overall number of years that they have
worked in the field of education, and lastly their knowledge of differentiated instruction. For the last question, four responses were coded to provide an average, as illustrated in table 1, where 0 was a response of "no", 1 was a response of "yes, somewhat", 2 was a response of "yes", and 3 was a response of "yes, very familiar". These background data were utilized in an analysis of the perceptions of middle school principals on the impact of differentiated instruction.

Table 1

Background Information of Middle School Principals

<table>
<thead>
<tr>
<th>Middle School Principal</th>
<th>Years in current assignment</th>
<th>Years in education</th>
<th>Knowledge of Differentiated Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>1</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>#2</td>
<td>8</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>#3</td>
<td>2</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>#4</td>
<td>10</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>#5</td>
<td>6</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>#6</td>
<td>4</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>#7</td>
<td>8</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>#8</td>
<td>15</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>Averages</td>
<td>6.75</td>
<td>25.00</td>
<td>2.13</td>
</tr>
</tbody>
</table>
Climate

Gregory and Chapman (2002) stated that the climate in any given classroom was influenced not only by its physical attributes but also by the complexity, variety, challenge and feedback involved in the learning experience.

Research Question 1: To what extent does differentiated instruction create a climate for learning?

As a result of the data gathered through the interview process, several patterns and themes emerge from the analysis of questions 2.1, 2.2, and 2.3 relevant to research question 1. For the first question within this interview set, the researcher asked each middle school principal: How do teachers plan learning experiences just beyond the level of each student?

From the responses, the researcher found a number of themes about the organizational structure of the school that promoted student-centered learning, a characteristic of differentiated instruction. Teaming and block scheduling, for example, were consistent themes throughout the response. Building an organizational structure conducive to differentiated instruction, the principals deemed it necessary to use teaming and block scheduling as tools to provide planning and preparation time for teachers. Middle school principal #3 discussed in detail the use of teams and providing team teachers
with the common planning time to design cross-curricular, problem-based, authentic learning tasks. In addition, block scheduling afforded, according to middle school principal #8, teachers the time to address individual needs by designing learning groups based on ability, learning style, or multiple intelligence. Lastly, the use of cooperative learning groups to promote engagement was another theme among the principals’ responses. Groups were designed based on knowledge of the learner.

There were also common themes in each principal’s response regarding curriculum design. They specifically mentioned learning centers, backwards design, and data driven decisions. Principal #5 described the use of NJASK scores to determine student strengths and weaknesses and how teachers use that information to design lessons. Teachers were asked to plan with the end in mind. Principal #3 asked teachers to think about what they want students to come away learning. Principal #7 indicated that they are in the process of forming an assessment committee to discuss and analyze how assessments can be used to improve instruction and hence student achievement.

Another theme apparent in the principals’ responses was the idea of questioning and engagement. All of the principals indicated a move away from direct instruction to a classroom
where students are engaged in the learning. Whether by using various instructional strategies or by necessity, one consistent imperative was that instruction was student-centered where the teacher facilitates learning. The principals also agreed that questioning needs to reflect the various levels of Bloom’s Taxonomy. They referred to students not only being able to demonstrate knowledge and recall it, but also to apply, analyze, and synthesize it.

The next question in the interview set was 2.2: How do teachers create a climate where all students feel welcome? There was one major theme consistent in the responses to this question. Each principal pointed to the instructional strategies employed by teachers to address the need students have to feel welcome. Although the strategies may differ in name, the basic premise is that each was designed for student-centered learning. Principal #5 referred to strategies such as cooperative learning, differentiated instruction, and small learning communities as ways of engaging students in order to foster an environment that is non-threatening. Principal #4 stated that it is the relationship teachers build and the personal connections that they make which creates a welcoming environment. Consequently, these personal connections were useful for teachers to identify student personal interests.
Principal #7 clearly identified that differentiated instructional strategies meet the needs of the individual learner fostering collaboration among students, teachers, and administration. Three principals used the team organizational structure as the vehicle to establish beliefs and create a culture of sharing. Principal #3 elaborated in providing the students with the freedom to express themselves in a variety of ways, common in differentiated instruction. Further, he described how students feel accomplished when they are given a choice in the manner of what product they create. Central to each of these strategies and the dialogue with each principal is the core principle of student-centered learning.

For the final question (2.3) in this interview, the researcher asked: Describe how students are involved in creating a climate conducive to all learning well.

There were three themes identified in the analysis of the responses. Student choice was consistent, in that choice was said to be very powerful, giving students the opportunity to design their own learning. Principal #6 stated, "In the literacy block, it provides students the opportunity to select the type of project they want to use to meet lesson objectives." The teacher became the facilitator when students were provided with choices. Principals described individual successes related
to student choice. Principal #1 stated that students assisted in the design of an advanced level course in a foreign language. Principal #6 stated student choice is a premise for the LEADS program mentioned by one other middle school principal. Principal #7 related that making individual connections and establishing relationships promotes students becoming responsible for their own learning. In this way, students could demonstrate the ability to choose their path for learning using project-based learning and hands-on-learning.

Discipline seemed to permeate the responses to question 2.3 as well. Principal #2 alluded to the specific behavior of middle school students. He stated, "They are very chaotic in their levels of maturity. You certainly have maturity differential." In order to address discipline and conformity to socially accepted behaviors, he established the "Penalty Box," basically a time out for students who interrupt the learning environment. Principal #5 referred to a positive behavior program established for the last three years. He asserted that practice measures to model expected behaviors reduced the distractions from the learning. In essence, the principal established a rewards' incentive program for students who behaved appropriately, hence students were motivated to act positively during school. Principal #6 referred to discipline
and the discussions that ensue as a result of a breach in the discipline code. The principal was adamant about having open discussions about resolving the issues or concerns a student may have.

The third theme evident from the principals' responses to this question related to the organizational structure of teams and blocks. Principal #5 described teaming and the block schedule and how it affects the climate in the school. He referred to how the individual team classrooms were physically located in close proximity to one another. This configuration created, in essence, a small learning community resulting in fewer distractions to the learning. He further stated, "Block scheduling really helps in creating a more elementary environment giving teachers and students more time needed for kids to fully understand the learning objectives." Principal #6 stated, "The teaming promotes opportunities for teachers and students to have time to discuss issues relevant to their learning. There was more interaction between teachers and parents, between teachers and students, and of course between myself and the faculty and parents all as a result of teaming."

Student Diversity

According to Jackson and Davis (2000) teachers could vary instructional strategies to the different ways students learn.
If learning styles were integrated into instructional teaching methods, students would have a more positive attitude toward school and more of an opportunity for success.

Research Question 2: To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student?

As a result of the data gathered through the interviews, several patterns and themes emerge from the analysis of questions 3.1, 3.2, and 3.3 relevant to research question 2.

For the first question (3.1) in this set, the researcher asked each middle school principal: Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

Responses to this question generally followed one theme, namely instructional strategies. With little deviation, each principal referred to a variety of teaching practices that address the learning styles and multiple intelligences of the individual learners. Principal #4 related their experience with literature circles and discussed how teachers use multiple and varied reading materials. He said, "Instead of everybody reading the same book maybe there will be two or three levels of books all from the same theme." Flexibility grouping was another strategy referenced. Principal #1 spoke of bringing
balance to groupings by making sure that they are not always the same. For instance, groups may be formed based upon ability, learning style, or multiple intelligences. Principal #6 also referred specifically to flexible grouping and "addressing every single child at every different level." Principals #2 and #7 referred specifically to 4MAT, an instructional strategy designed to bridge the learning to personal and real life experiences. Principal #7, however, was the only principal to specifically refer to assessment designed to identify a student's learning style or multiple intelligence. He stated that a complete learning inventory is administered in the beginning of the school year. Tiered assignments, problem-based learning, leveled readers, and student-centered interdisciplinary projects were common practice, according to each principal.

Two principals referred to the LEADS program and how it specifically addresses differentiated instruction by the nature of the activities and projects associated with each lesson objective.

In the second question (3.2) of this set, the researcher asked: Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.
Responses to this question varied between two themes. The first was the organizational structure in the school. Principals referred to master scheduling in Teaming and block scheduling. The other theme was specific differentiated instructional strategies and classroom practices that address individual learning styles and multiple intelligences.

Principal #2, for instance, stated that in order to meet the needs of all learners it is especially useful to function in a block. He continued by saying the use of blocks, in subjects such as math and language arts, provides additional time to enable teachers to implement hands-on type projects or use learning centers as ways to differentiate the learning. Principal #3 stated that a more ambitious schedule that included a modified block, created the opportunity to provide team teachers with common planning time. Common planning time was essential for teachers to design interdisciplinary units of study that address various abilities, learning styles, and multiple intelligences. Principal #6 stated Teaming gave teachers common planning time to collaborate on lessons designed to address core standards and assess student progress. Further, Principal #6 stated that pacing guides contained activities that promoted interdisciplinary projects across three content areas.
Finally, principals #5 and #6 referred to the LEADS model, which generally promotes learning centers.

The second theme apparent in responses to question 3.2 was instructional strategies. The principals made reference to hands-on, inquiry-based and project-based activities as ways of addressing individual learning styles and multiple intelligences. Principal #1 referred to opportunities for students, based on a theme, to select from choices in the content, process, and product to demonstrate understanding. Principal #3 stated that they have students engaged in project and problem-based learning that addresses each student’s ability and interests. Principal #3 also indicated that teachers use centers that are categorized or tiered to the individual learning style or multiple intelligences. Principal #7 stated that teachers are familiar with 4MAT, which not only addresses learning styles but introduces other modalities of learning to all students.

For the final question (3.3) of this interview set the researcher asked: What experiences are used to engage students in their learning?

Responses to this question had the over-arching theme of instructional strategies that differentiate the learning environment. For example, principal #1 related that student
involvement in the development of curricular objectives led to the redesign of course objectives. Principal #2 referred to two interconnecting questioning techniques that engage learners and increase participation in lesson discussions. Principal #3 referred to such instructional strategies as flexible scheduling, cooperative learning and learning centers as ways to engage students in their own learning. Principal #4 mentioned cooperative learning as well, in addition to literature circles to engage students. Principals #5 and #6 referred to strategies and activities incorporated into the LEADS model, such as centers and scaffolding curriculum to engage students at their readiness level. Principal #7 referred to strategies such as transformational changes and student choice using Understanding by Design. Principal #8 concluded that the overall organizational structure and attention to lesson design have promoted student engagement in the classroom.

Assessment

Tomlinson and Eidson (2003) indicated that assessment must be an ongoing process, administered in flexible but distinct stages. Identifying readiness levels, interest, and learning modalities were critical in order to successfully differentiate the learning environment.
Research question 3: To what extent does differentiated instruction influence assessment strategies that lead to modification of assignments and curriculum?

As a result of gathering responses from the interviews, several patterns and themes were evident from the analysis of questions 4.1, 4.2, and 4.3 relevant to research question 3. The first question (4.1) the researcher asked was: Describe the methods used by teachers to assess student progress. Principals referred to a variety of assessment strategies employed at their individual schools. For example, Principal #1 stated that teachers use traditional tests and quizzes, portfolio assessment, and oral presentations. Principal #2 stated that, in addition to tests and quizzes, teachers use projects, essays, and problem-based learning and performance assessment to assess student progress. Principal #3 stated that teachers use holistic scoring, open-ended questions, and rubrics to assess student progress. Principal #4 said that teachers use written assignments, traditional tests and quizzes, oral presentations, rubrics, and peer evaluation. Principal #5 stated that assessments are critical in the backward design of the curriculum and that assessments take the form of traditional tests and quizzes, projects, and rubrics. Principal #6 stated that aside from tests and quizzes, teachers use a student-
centered approach to create assessments that are performance-based. She referred to Learnia and Folio, two computer generated software programs, which monitor individual student progress based upon performance standards and the Core Curriculum Content Standards. Principal #7 indicated that teachers use tests and quizzes, formative assessment, ongoing daily classroom assessment, project-based assessment and performance-based assessment. Principal #8 referred to questioning techniques that teachers use to create dialogue and assess student progress, in addition to the traditional types of tests and quizzes.

The next question in the interview set was 4.2: How do assessment strategies affect the curriculum and curriculum renewal?

There was a consistent theme throughout the principals' responses. The theme was that they all use assessments to adjust and modify the curricula. However, there does not seem to be a consistent pattern across all responses. For instance, principal #1 used standardized assessments for feedback on curriculum objectives. Principal #2 stated, "The curricular offerings should be I think much more in concert with problem-based learning experiences, with inquiry-learning, with hands-on, and with a more laboratory approach." He also mentioned the
political pressure from NCLB that drives curriculum and curricular objectives. Principal #3 stated that the teachers use performance-based assessments, exhibitions via rubrics, conventional holistic scoring rubrics, standard tests and portfolios, and as a result of that assessment data, create cross-curricular experiences for students. Principal #4 referred to a number of sources used to revise curriculum. Assessment is, of course, a big part of it. He referred to the curriculum review cycle and the collaboration among staff to make curricular decisions. He also stated that input comes from the Parent Advisory Committee and Principal’s Advisory Committee. Principal #5 indicated backward design is used to revise any of the curricula. That in itself dictates that assessments drive the curricula. Principal #6 referred to the curriculum as a living document subject to revision at any time. He further stated that the supervisors and support specialists make curriculum revision based upon assessment data. Principal #7 stated that the curriculum was a result of standards-based assessments. Principal #8 clarified that the teachers are responsible for curriculum writing and that their individual assessments impact the decision making process.
The third question in the interview set was 4.3: How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning? Responses focused on one re-occurring theme and that was "opportunities to engage in dialogue". Principal #1 explained that as a teacher he would have discussions over literature selection, for example. He stated that it would be good to know what it is about the material or what it is about the way I present it "that's turning you off". Principal #2 confirmed that it is through feedback and conversation that teachers gain student perspectives of the learning. He alluded to the fact that he uses this technique to gain feedback from the teachers. Feedback from faculty meetings and through formal observation is used to promote "continuous improvement" in all areas of the curriculum, and the organizational structure of the school. Principal #6, for example, also referred to conversation in engaging students in the instructional process. He also referred to professional conversations with supervisors, teachers, and administrators to provide professional development for teachers in the area of student assessment and feedback to improve learning. Principal #7 also referenced professional development geared toward promoting collaboration in conversation among staff about how student feedback is gathered.
Principal #6 referred to the benchmark assessments designed to provide feedback to students at regular intervals so that they might participate in dialogue over their learning experiences.

Student Achievement

Jackson and Davis (2000) stated that curriculum should encompass both sides of the polarity. Concepts and essential questions could function within and across disciplines. Including students in the planning and design of their own learning promoted an integrated approach giving students ownership of their learning.

Research question 4: To what extent does differentiated instruction impact student achievement of high curricular expectations in middle schools?

As a result of the interview process and the information gathered relevant to research question 4, there were significant patterns and themes that emerged from the analysis of questions 5.1, 5.2, and 5.3. The first question (5.1) the researcher asked each principal was: How do teachers incorporate available resources within the classroom to meet curricular objectives? The one overarching theme to the responses on available resources was technology. The use of computers, PDAs, GPSs and iPods were mentioned. Essentially, the principals indicated that computers are no longer just a word processing device, and
with the Internet, the information was basically stated to be endless. Principal #1 indicated that laptop carts are available for teachers in language arts for research purposes. He added that computers help free up time for teachers. Principal #2 also stated the use of laptop carts for research. Principals #4 and #3 stated that their language arts teachers use laptop carts to provide students with available resources on the Internet. Principals #5 and #6 mentioned the use of PDAs, GPSs, and iPods for classroom activities. There were two principals, #3 and #5, who indicated that field trips relevant to learning objectives were also a regular part of their routine.

The researcher asked each principal question 5.2: Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

The general theme of the responses was that concerning specific strategies that differentiate the learning environment. Principal #1, for instance, said that they do projects, plays and presentations, cooperative learning groups, and learning centers.

Principal #2 mentioned cooperative learning and problem-based learning activities. Principal #3 referred to cooperative learning and learning centers as well as project-based learning activities. Principal #4 mentioned projects and presentations
or plays. Principal #5 stated that teachers need to, and do for the most part, use different strategies to address the interests of each child. Principal #6 referred to the team and block structure with the incorporation of the LEADS program. Principal #7 mentioned choosing meaningful activities that reflect what is valuable in each child's life and integrating that into the projects and performance-based activities in the classroom. Principal #8 referred to questioning techniques used to successfully engage the students in the learning.

The last question (5.3) of the interview set asked principals: From your perspective, how does differentiated instruction impact student achievement of high curricular objectives in the middle school?

The overarching theme in the responses of the middle school principals really targeted how a child feels, particularly in the middle school environment. Principal #1 referred to how all students are more focused and on task because they have a personal stake in their own learning. Principal #2 related how professional development has helped to build relationships among staff and students. Principal #3 referred to differentiated instruction as a change in classroom culture that respects the individual. Principal #4 stated that kids feel valued and that the atmosphere of mutual respect puts the responsibility on the
student to give nothing less than their very best. Principal #5 referred to differentiated instruction as small learning communities where students feel more comfortable. Principal #6 insisted that addressing the needs of each student creates an environment where kids can thrive and grow without the frustration of being overwhelmed for some, or bored by lack of challenge or interest for others.

Principal #7 said that the use of differentiated instruction will produce across-the-board significant growth in student achievement as a result of a comfort level with the variety of modalities of learning versus traditional direct instruction and assessment.

Summary

The findings covered a range of perspectives that indicate instructional strategies that differentiate the learning environment impact on positive student achievement. When employed, differentiated instruction creates a climate where students feel welcome, have ownership over their learning, and are engaged in the learning. Lesson objectives included projects and performance-based activities that ask students to synthesize, analyze, predict, and make conjectures about the learning.
In addition, differentiated instruction, combined with core leadership skills, could address the variety of abilities, learning styles and multiple intelligences resulting from increasingly diverse classrooms. Using varied instructional strategies and implementing organizational change created the opportunity for teachers to address the needs of the individual learner. It was unclear in some instances which influenced the other, for example, at least in one instance; it was the organizational change to block scheduling that prompted the need for teachers to use differentiated instructional strategies. However, it was clear that one can not be as effective without the other.

Assessment was probably the weakest area. Almost all of the principals indicated that they use a variety of formal and informal assessment strategies; however, it is the on-going, day to day assessment by the teachers that influences real change to the curriculum. It was not apparent that teachers understood or implemented on-going daily assessment of student needs, interests, or abilities. Only one principal stated that they create learning profiles that assess learning styles and multiple intelligences, as opposed to the others who were concerned more about the achievement of standards.
In all but one instance, the implementation of differentiated instructional strategies was fairly recent, i.e. within the last three years. It was curious how the research and literature base dates back several decades and yet the practical application has only been over the last three years. The evidence was clear how best to address the social, emotional and academic needs of the middle school student. Unfortunately, seven of the eight middle schools were just beginning to scratch the surface of implementing differentiated instruction.

With the understanding that these changes are recent for almost all of the middle schools, the researcher was not confident that differentiated instruction is being truly implemented as intended. Although each conversation lead the researcher to conclude that the relevant themes were consistent with the literature, it was not clear if differentiated instruction was utilized to its greatest potential. Specifically, assessment strategies were employed school wide and corrective action taken concerning curricular revisions. However, as stated earlier, it was difficult to discern if teachers actually used on-going assessment to adjust the daily delivery of instruction.
Overall, the perspectives were clear that by using all of the current resources available, differentiated instruction does impact student achievement in a very positive way.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this study was to collect and analyze qualitative data gathered from the perceptions of middle school principals across Middlesex County, New Jersey, on differentiated instruction. This study examined those perceptions as they relate to classroom climate, student diversity, assessment, and student achievement towards high expectations in middle schools as defined by curricular objectives. Chapter 1 presented the problem that was studied: What is the perspective of middle school principals across Middlesex County, New Jersey, with respect to differentiated instruction? Chapter 2 contained the literature that focuses on differentiated instruction, particularly at the middle school level, and includes classroom climate, student diversity, assessment, student achievement and finally the middle school. Chapter 3 contained a description of the methodology used in the study to evaluate the responses from the one-to-one interviews with the middle school principals selected to participate in the study. Chapter 4 included an analysis of the data collected. Chapter 5 offers a summary, conclusions, and recommendations for policy, practice, and future research.
Four research questions were asked: (a) To what extent does differentiated instruction create a climate for learning? (b) To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student? (c) To what extent does differentiated instruction influence assessment strategies that lead to modification of assignments and curricula? (d) To what extent does differentiated instruction impact student achievement of high curricular expectations in middle schools?

In order to address the research questions, eight middle school principals were interviewed at their schools and asked a sample of open-ended questions related to these research questions.

Research question 1 was: To what extent does differentiated instruction create a climate for learning? In order to gather responses related to this question each principal was asked a series of three questions. For climate of learning, participants were asked: How do teachers plan learning experiences just beyond the level of each student? Gregcry and Chapman (2002) stated that the climate in any given classroom is influenced not only by its physical attributes but also by the complexity, variety, challenge and feedback involved in the learning experience. Gibbs (1996) and Lyman and McTighe
(1998) presented techniques to help create a climate where each individual need of students is addressed.

Responses to the first question centered on the theme of organizational structure, curriculum design, questioning and engagement of students. Principals felt that teaming and block scheduling help to facilitate a learning climate that addresses individual student needs. Three principals agreed that curricula had to be designed with outcomes in mind. The techniques of questioning were highly regarded as a way to engage students in the learning. In addition, curriculum design needed to address ability, learning styles, and multiple intelligences.

Principals' responses matched the relevant research to a great extent, however, organizational structures seemed to influence the instructional delivery. It was the classroom structure that should dictate the organizational structure. Questioning, engagement, and the notion of curriculum design were consistent with the literature. Tomlinson (1999) identified key components of differentiated instruction resulting in teachers taking a meaningful approach to actively engage the learner.

The researcher asked each principal: How do teachers create a climate where all students feel included? One major theme was
consistent throughout the responses from the middle school principals. Teachers employed instructional strategies to address the need students have to feel welcome. One principal referred to strategies such as cooperative learning, differentiated instruction, and small learning communities as ways to engage students that fosters a non-threatening environment. Another principal referred to similar strategies that foster collaboration among peers. In addition, several responses indicated that one imperative is that teachers create activities that are student-centered where the teacher facilitates the learning.

These responses were consistent with the literature. Csikszentmihaly and Csikszentmihaly (1988, 1990, 1997) referred to the state of "flow" as being key to creating learning experiences that match student ability. It enables students to maximize their productivity, and moreover it creates a climate that students will eagerly embrace. The responses among the principals were not consistent in that strategies such as cubing or anchor activities, were not mentioned specifically, however, conceptually, the responses were consistent with the basis for these strategies.

The researcher asked the final question of this interview set: Describe how students are involved in creating a climate
conducive to all learning well? Three themes were consistent throughout the participants' responses. Student choice, discipline, and organizational structures were the three themes. Principals were consistent in having students demonstrate this ability to choose their path for learning using project-based learning. The second theme of discipline seemed a priority, especially in the middle grades. Both positive reinforcement and consequent discipline were employed. The third theme was organizational structures, and each principal in some fashion referred to Teaming and Blocks. These structures promoted a greater level of communication between all parties. It also provided the time required to engage students in performance-based learning activities.

Providing choice and performance-based assessment were consistent with the concepts of differentiated instruction. By creating tasks that are student-centered and performance-based, teachers could involve students in the learning using meaningful approaches to actively engage the learner. Jackson and Davis (2000) would concur that middle schools operate best if they are organized in teams and blocks of time designated for instruction. Although common planning time and advisory periods were not mentioned as prescribed by Jackson and Davis, again the general principles were consistent with the literature.
Research question 2 was: To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student? According to Jackson and Davis (2000) teachers could vary instructional strategies to the different ways student learn. Wadsworth (1974) indicated the need for the curriculum to adjust for individual cognitive ability, for without the prerequisite cognitive skills, learning will not take place.

Two themes consistently emerged from the analysis of questions asked relevant to the research question. The first theme was that of instructional strategies. Principals related that the use of such strategies as literature circles, flexible grouping, and 4MAT connected the learning experiences to personal real life experiences. They described models such as LEADS and differentiated instruction, to address the learning styles and multiple intelligences of each student. In addition, the use of tiered assignments, problem-based learning, and student-centered interdisciplinary units of study were common practice to address learning styles and multiple intelligences. These responses were consistent with the literature reviewed in Chapter 2. Grigorenko and Sternberg (1997) found that where learning experiences are matched with ability level, learning style, and multiple intelligence, students achieve significantly
better as compared to strategies that are not matched. Gardner (1983, 1993, 1997) and Sternberg (1988, 1997) each described ways that address the variability of learners and are consistent with differentiated instruction. Clearly, strategies that address the individual needs of students translated into better performance of higher student achievement. The principals certainly identified strategies used that are consistent with literature, and the expectations of improvement were realized. Various responses alluded to recent and consistent improvement on standardized tests since employing a variety of strategies consistent with differentiated instruction. Richardson (1997) stated that recognizing and identifying the needs of the learner will promote the capacity for students to be successful. This was one point of contention for the researcher. Only one principal stated that they created a learning profile which legitimately assesses the learning style and multiple intelligences of each student. It was unlikely that, without such an assessment, the strategies employed will be as effective as they could possibly be.

Research question 3 was: To what extent does differentiated instruction influence assessment strategies that lead to modification of assignments and curricula? Tomlinson and Eidson (2003) indicated that assessment must be an ongoing process,
administered in flexible but distinct stages. Identifying readiness levels, interest, and learning modalities were critical in order to successfully differentiate the learning environment. In addition, for students to meet "work requirements" they need to think critically, solve problems, make decisions, and collaborate with others (Wiggins, 1998). Aside from various assessment strategies, principals were consistent on the issue of using assessments to guide curriculum design. The other theme that was evident focused on dialogue as feedback for teachers on student progress.

Responses from principals followed three consistent themes. The first was the variety of the assessments used. Principals indicated that their teachers used everything from the traditional tests and quizzes to rubrics, to peer evaluation, oral presentations, essays, inquiry learning, to performance-based assessment. Each of these assessment types were consistent with strategies suggested by the literature on differentiated instruction. Jackson and Davis (2000) included all of the assessments in high performing middle schools. Tomlinson (2001) clearly stated that assessment is integral in designing lessons regardless of the strategy used. It was the assessment and feedback that was crucial to identifying learning objectives appropriate to the individual student.
If the learning objectives were all based on individual student assessment, it followed that the curriculum should be as well. This was the second consistent theme that emerged from principals’ responses to this research question. Two principals referred specifically to backward design, a method of designing the curriculum based on standards-based assessment.

Lastly, creating good conversation was important to creating a climate conducive to differentiated instruction. Dialogue had an important part in giving students the opportunity to participate and be engaged in the learning. Once a student gains ownership over their learning, as one principal said, “The sky is the limit.”

Research question 4: To what extent does differentiated instruction impact student achievement of challenging curricular objectives in middle schools? Jackson and Davis (2000) stated that the curriculum should encompass both sides of the polarity. Concepts and essential questions function within and across disciplines. Including students in the planning and design of their own learning promoted an integrated approach, giving students ownership of their learning. Two distinct results of differentiated instruction were honoring each student’s learning needs and maximizing each student’s learning capacity (Tomlinson & Eidson, 2003).
From the responses generated from the questions asked relevant to their research question one theme emerged. Differentiated instruction at the middle school was indeed a perfect fit. Noted in the transcripts were the essential components of a well organized and managed classroom that engages students in their learning, attempting to achieve "flow" in every way possible. The researcher has concluded that, from the sincerity of the responses, differentiated instruction impacts student achievement of challenging curriculum objectives and promotes improved student achievement.

Conclusions

The purpose of this study was to access the perceptions of Middlesex County, New Jersey, concerning differentiated instruction. This study examined the climate for learning, student diversity, assessment, and student achievement.

Four research questions were asked: (a) To what extent does differentiated instruction create a climate for learning? (b) To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student? (c) To what extent does differentiated instruction influence assessment strategies that lead to modification of assignments and curricula? (d) To what extent does differentiated
instruction impact student achievement of high curricular expectations in middle schools?

In order to address the research questions, eight middle school principals were interviewed at their schools and asked a sample of open-ended questions related to these research questions.

Research Question #1

To what extent does differentiated instruction create a climate for learning?

The responses gathered from each of the middle school principals have lead the researcher to conclude that differentiated instruction did create a climate for learning. Differentiated instruction strategies opened opportunities for students to participate in their own learning. It gave them a sense of pride and accomplishment when they were involved in the choice of content, process, and product. They experienced learning activities that were geared towards their ability, learning style, and multiple intelligences. They were challenged and held accountable. They learned to build social capacity by learning to work and collaborate with others. They learned to function in an environment respectful of each others’ needs to feel included and welcomed.
Research Question #2

To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student?

After analyzing middle school principals' responses to this question the researcher was led to conclude that differentiated instruction did address the learning style and multiple intelligence of the individual student to a great extent. Each instructional strategy was designed with the theories of learning styles and multiple intelligences in mind. Therefore, by virtue of the instructional design, differentiated instruction addressed the learning styles and multiple intelligences, hence providing the opportunity to improve student achievement.

Research Question #3

To what extent does differentiated instruction influence assessment strategies that lead to modification of assignment and curriculum?

After reviewing the responses of the principals, the researcher concluded that assessment does in fact impact curriculum and teacher assignments. The degree to which that actually happens is still somewhat in question. The principals referred to legitimate assessment techniques consistent with the
literature, however, only two spoke of backward design, which was premised on designing curriculum based on the assessment. The principals identified a great deal of data when it came to assessment. It was not clear if the potential of all of that data is being utilized to its fullest potential.

Research Question #4

To what extent does differentiated instruction impact student achievement of high curricular objectives in middle schools?

Without hesitation, the researcher concluded that differentiated instruction impacts student achievement significantly. The principals clearly pointed to the general and overall positive behaviors exhibited by students and teachers as well. When children are stimulated, encouraged, challenged just beyond their ability, a state of "flow" can exist and students will eagerly embrace learning, particularly at the middle school level.

Policy Recommendations

1. Recommend a serious commitment to curriculum renewal and revision based upon performance-based assessments.

2. Design and implement an evaluation process of teachers that includes the use of varied instructional strategies that differentiate the learning environment.
3. Administer standardized assessments to create a learning profile that legitimately details each student's learning style and multiple intelligences.

4. Regarding teacher contracts, negotiate terms to ensure that the teachers have additional opportunities for professional development, peer assessment, sharing, collaboration and curriculum/lesson design.

Practice Recommendations

1. Expand opportunities for teachers to have planning time with colleagues (team members) to create interdisciplinary performance-based learning activities.

2. Professional development for the teaching faculty geared towards the use of instructional strategies that differentiate the learning environment.

3. Seek to hire professional teaching staff who can demonstrate a working knowledge of differentiated instruction.

4. Examine the feasibility of implementing differentiated instruction at other grade levels as opposed to just the middle level grades.

5. Actively involve parents in the decision making process.
6. Pursue partnerships with local businesses, universities, and surrounding districts to integrate real-world experiences into school curricula.

Recommendations for Future Research

1. A study of middle school principals from another county could be undertaken, and the results compared.

2. A study could be implemented that gathers the perceptions of teachers on the impact of differentiated instruction on student achievement.

3. A study that examines the perspectives of elementary or high school principals and/or teachers could be carried out.

4. A study could be developed that examines the perspectives of students from various grade levels about differentiated instruction.

5. A study that solely examines student diversity and differentiated instruction could be implemented.

6. A study could be undertaken that solely examines assessment and differentiated instruction.

7. A study that solely examines classroom climate and differentiated instruction could be implemented.
9. A study could be developed that examines the performance of students on standardized assessments from differentiated classrooms.

9. A study on the impact of technology on differentiated classrooms could be undertaken.

10. A comparative study that examines the differences between differentiated and non-differentiated classrooms could be carried out.

11. A study could be implemented that examines the organizational structures necessary for differentiation to occur.
References


Appendix A

Letter to Superintendents
12/17/07

Dear «Title» «LastName»:

Please allow me to introduce myself. My name is Fredrik Oberkehr and I am a graduate student at Seton Hall University, College of Education and Human Services in the Executive Ed.D. Program. My particular area of interest is differentiated instruction. Specifically, I am interested in researching the extent to which middle school principals perceive how differentiated instruction impacts student achievement.
To that end, I would like to ask permission to collect qualitative data using one to one interviews. Eight middle school principals from Middlesex County will be chosen at random to participate in this study.

I wish to assure you that all data will be kept confidential and will reside in a locked cabinet within the researcher's home. I am hoping that you will grant me this opportunity to obtain data relevant to instructional strategies that differentiate the learning environment. I have enclosed a self-addressed stamped envelope for your convenience. In order for me to proceed under specific guidelines from the Institutional Review Board, I am required to have permission from the Chief School Administrator on school letterhead. If you could please reply by January 5, 2008, I would appreciate the opportunity to add to the knowledge base from which we all may draw.

Sincerely,

Fredrik Überkehr
Appendix B

Letter to Principals
January 7, 2008

«Title» «First_Name» «Last_Name», Principal
«Company_Name»
«Address_Line_1»
«City», «State» «ZIP_Code»

Dear «Title» «Last_Name»:

My name is Fredrik Oberkehr. I am completing a doctoral dissertation in Education Leadership, Management and Policy at Seton Hall University, College of Education and Human Services. The title of this study is “Differentiated Instruction: Perceptions of Middle School Principals across Middlesex County.” This qualitative study will be comprised of several one to one interviews, each consisting of three background questions and twelve interview questions concerning the impact of differentiated instruction on middle level education. I have contacted your Superintendent to gain district approval to conduct this research study.
I am requesting a one to one interview that should last no longer than forty-five minutes. The interview would be held in your office at a mutually agreed upon time. If your office is not available, arrangements can be made to change the location. With your permission, I will take notes of your responses as well as tape record the conversation. The information gathered will be used solely for the purpose of analysis and the confidentiality of the interview will be preserved. Only the researcher and the dissertation committee will have access to this data. Notes and tapes will be coded by number for confidentiality and no personal identifying information will be revealed. All recorded and documented responses will be kept in a secure, locked cabinet in the researcher's home for a period of not less than three years and destroyed after the time.

Participation in this study would be voluntary and the participant has the right to terminate involvement at any time. Refusal to participate in the study or discontinuing participation at any time will involve no penalty or loss of benefits that you are otherwise entitled to.

It is my hope that this study will enhance our understanding of differentiated instruction and its impact on middle level education. If you are a willing participant, please sign and date the Informed Consent Form and complete the
reply form. I have included a self-addressed stamped envelope for your convenience. I will contact you to arrange a time and place for the interview and provide a copy of the interview questions for your review. Please feel free to contact me if you have any questions about the study. Thank you in advance for your anticipated participation.

Sincerely,

Fredrik Oberkehr
Appendix C

Informed Consent Form
INFORMED CONSENT FORM

Researcher’s Affiliation

Fredrik M. Oberkehr is completing a doctoral dissertation in Educational Leadership, Management and Policy at Seton Hall University, College of Education and Human Services.

Purpose

The purpose of Fredrik M. Oberkehr’s study is to investigate Differentiated Instruction: Perspectives of Middle School Principals. The interview itself should take approximately forty-five minutes.

Procedures

Subjects will be interviewed by the researcher. The researcher will take notes of the responses as well as tape record the conversation. Interviews will be conducted at each of the randomly selected middle schools.

Instruments

The interview will consist of the researcher asking three background questions and twelve open-ended questions in an attempt to gain a perspective about differentiated instruction and its usefulness in middle level education. The open-ended questions will explore how differentiated instruction impacts the learning environment as related to student diversity, assessment, and cognitive research on human learning, and high
expectations for all students. An example of the types of questions that will be asked is: To what extent does differentiated instruction impact the learning environment with respect to student diversity?

**Voluntary Nature**

Participation in this study would be voluntary and the participant has the right to terminate involvement at any time. Refusal to participate in the study or discontinuing participation at any time will involve no penalty or loss of benefits that the subject would otherwise be entitled to.

**Anonymity**

There is no anonymity due to the one to one interviews conducted in this study. However, the information gathered through the interviews will be used solely for purposes of analysis and the confidentiality of the interview and of the school district will be preserved. To maintain accuracy and confidentiality, each subject will be assigned a number code.

**Confidential Records**

The researcher and his mentor will review the raw data including all notes and recordings which will be saved in a secure, locked cabinet in the researcher’s home for a period of three years.
Risks and Discomforts

There are no anticipated risks or discomforts associated with participating in this study.

Benefits

The anticipated benefits from participating in this study include a greater understanding of differentiated instruction and its impact in middle level education and possible changes in leadership, policy and management governing middle schools.

Alternative Procedures

There are no alternative procedures or courses of treatment that might be advantageous for the subject as a result of this study.

Contact Information

Fredrik M. Oberkehr, the researcher and student at Seton Hall University, may be contacted for answers to pertinent questions about the research and research subject’s rights. In addition, the researcher’s mentor and the Chairperson of Seton Hall University’s IRB may also be contacted.

Fredrik M. Oberkehr, Researcher
Seton Hall University
Department of Education
400 South Orange Ave
South Orange, NJ 07079
973.275.2723

Dr. Anthony Colella, Researcher’s Mentor

Seton Hall University

Department of Education

400 South Orange Ave

South Orange, NJ 07079

973.275.2723

Dr. Mary Ruzicka, Director of the Institutional Review Board

Seton Hall University

Department of Education

400 South Orange Ave

South Orange, NJ 07079

973.313.6314

**Audio Tapes**

Signing this Informed Consent grants the researcher permission for audio taping. The subject has the right to review all or any portion of the tape and request that it be destroyed. Each tape recorded interview will be assigned a number code and the recordings will be analyzed and transcribed by the researcher. Raw data may also be reviewed by the researcher's mentor. The audio tape will be kept in a secure
and locked cabinet in the researcher’s home for a period of at least three years following termination of the research.

**Copy of Informed Consent Form**

A copy of the signed and dated Informed Consent will be given to the subject.

______________________________
Subject or Authorized Representative
Appendix D

Oral Script
Differentiated Instruction: Perceptions of Middle School Principals across Middlesex County, New Jersey

Oral Script

Good day. Thank you for taking the time to participate in my study. The purpose of this study is to gain some insight into differentiated instruction. My intention is to gather the perceptions of middle school principals on the extent to which differentiated instruction impacts student achievement in the middle school. I will be asking a variety of questions. Three background questions and twelve open-ended questions to gather and analyze responses in an attempt to answer the four following research questions:

1. To what extent does differentiated instruction create a climate for learning?

2. To what extent does differentiated instruction address the learning styles and multiple intelligences of the individual student?

3. To what extent does differentiated instruction influence assessment strategies to adjust assignments and curriculum approaches?

4. To what extent does differentiated instruction impact student achievement of high curricular expectations in middle schools?
Interview Questions:

1. How long have you been a middle school principal?
2. Are you familiar with specific strategies that differentiate the learning environment? List.
3. How many years have you worked in the field of education?
4. How do teachers plan learning experiences just beyond the level of each student?
5. How do teachers create a climate where all students feel included?
6. Describe how students are involved in creating a climate conducive to all learning well.
7. Describe how teachers address individual learning styles, thinking styles, and multiple intelligences in the classroom.
8. Describe differentiated instructional strategies teachers use to address the variety of styles and intelligences present in the classroom.
9. What experiences are used to engage students in the learning?
10. Describe methods used by teachers to assess student progress.
11. How do assessment strategies affect the curriculum and curriculum renewal?
12. How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?

13. How do teachers incorporate available resources within the classroom to meet curricular objectives?

14. Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

15. From your perspective, how does differentiated instruction impact student achievement of high curricular expectations of middle school students?
Appendix E

Transcripts of Interviews
Middle School Principal # 1

Question 1.1 How long have you been a middle school principal?

1 year.

Question 1.2 How many years have you worked in the field of education?

It has been 13 years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes I am familiar with differentiated instruction through course work, readings and my experience as a vice principal.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

Well, I guess maybe the easiest way to answer that question is to use our experience here. Here we have two subjects where we offer honors classes in language arts and math. And I find that teachers here have no difficulty differentiating between so called honors work and regular work. Where they seem to struggle is in their regular classrooms, grouping out kids who may not be honors but perhaps a little ahead of the curve or a little behind it. I've found in my experience and this is true in my former district as well that there is some resistance to what they consider slowing down the curriculum for students they
consider to be slow. So it's a battle, an ongoing battle. And I thought that stuff was all over. It is too discouraging that older teachers cling to that notion.

Question 2.2 How do teachers create a climate where all students feel included?

I think that really comes about through that personal connection, trying to develop a personal connection with the kids. Trying to find where those kids' interests and strengths are and conversely where their weaknesses are and really may be the biggest part particularity at this age where is to convince them that once I know what your weaknesses are I am not going to use that as a club I am not going to use that as a way to isolate you or to punish you or make you feel stupid. Call on you all the time this is something I remember from my grammar school days. I remember teachers knowing that I was not particularly strong in math and so their philosophy seem to be so let's give him really challenging stuff in public so that he could be humiliated on a daily basis. And therefore I was spurred to get better so that I would stop being humiliated. And it was a really bizarre approach but I think that's how you get with kids you find out what it is that they like to do and headed in that direction.
Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.

It is less so than I would like it to be but that is changing I think. One of the things, for example, that I did here last year, I wasn't able to do it this year because there wasn't any money, but it does look like I am going to do it next year, is in the area of Spanish language instruction for seventh and eighth grade. We have a pretty big percentage of kids who speak Spanish at home and putting them in a basic Spanish class where they are learning how to say the cat is on the table is they know this they have known this since they were 3 or 4. I really wanted to get a course together that would sort of enable them to go beyond start talking start with literature, start having discussions in Spanish, but the concern was, and it's a legitimate concern, that it would be seen as well the Hispanic kids are all over here while the Anglo kids are all we hear and you don't want to do that, so in order to avoid that I said we will have a placement test and we will make sure that some Anglo kids are in there, some top level Anglo kids, even though in fact the class is probably going to be 75% Hispanic. But these are kids that very often they struggle in other classes because of language difficulty, and this is a way for them to feel like hey ya know I'm in an honors class - it's not really an honors
class but de facto it is ya know I'm in a high-level class too, I can do high-level work and ya known I don't have to be constantly relegated to slower classes. So they did have a hand in designing that. It was my idea, but, and the teacher of course designed a lot of it but a lot of the kids suggested I would like to read this or I would like to look at that maybe do this movie or that play.

Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

Well the good ones that are here, and there are good ones here too, they do things like I am thinking, for example, of a sixth grade math teacher who does a lot of, particularly with boys, of letting them get up and walk around and having them go to the back of the room in order to do this and then come up here and do that and go over there to do that, getting away from that whole sit at your desk and do your work quietly. A lot of group work, and maybe what's most important in group work is that it is not always the same group, really balancing it out well, making sure that every kid is responsible for certain aspect of it. Even though, and there are creative ways to do this, even though you know that maybe your contribution is going to be of a higher level than mine is going to be, but no less
important. In making sure that it is understood by everybody that everybody has to do this, it really doesn't work unless everybody does their part and it may seem as though you have a bigger part you can't do yours if I don't do mine. Talking about it after these things are done, ya know, reviewing them and inviting comment from other groups pairing other groups working out a sense of not who's better or who's worse but how well did they cooperate, giving grades for cooperation not just results.

Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.

Well there are various types of, for example, in language arts classes there are daily readings that go on, but it is not always the same reading. It might be you're reading something and I'm reading something else. There is a connection in terms of a theme, but there is a difference in terms of maybe the level, or maybe what's expected from me once I have read it. Maybe you will be producing something that is written and maybe I will be producing something that is acted out, all these types of things. I really do find that it seems as though language arts in this school at least is taking the lead.
Question 3.3 What experiences are used to engage students in their learning?

I would use I would go back to that Spanish class and say that there were several students who came, because this is another thing that came to light during this, even though many of these kids come from Spanish-speaking households there is a very big variety within the Spanish speaking community, kids from Peru kids from Mexico kids from Cuba all very, very distinct cultures, and simply saying that we are going to talk about Spanish food - there is no such thing as Spanish food unless you’re in Spain. So there was a good number of students who came to the teacher and said well this is an interesting poet from Peru or this is an interesting newspaper from Cuba or Puerto Rico or something like that. Even though it was Spanish a lot of these kids never heard of this stuff before. They definitely took an interest in that. They really, I would say, co-designed that class. I stayed out of it. Between the teachers and the kids, they did it.

Question 4.1 Describe the methods used by teachers to assess student progress.

Well, I would say that it runs the gamut from the traditional type of quiz and test. I do wouldn’t say that people have gotten away from quizzing here and I don’t think that they
necessarily will should. So that goes on. There are portfolios that are kept, there are journals that are done, there are oral presentations that are made. We don't have exams. We don't have midterms or finals. There has been some talk about maybe advocating for that. But I think the best case or the only case that seems to be made in favor of that, is to prepare them for high school. I'm not saying that doesn't have any weight, but it seems like kind of a weak argument. There really ought to be a better reason if you're going to do it, it seems to me that there should be a better reason other than you're just can have to do it someday. I would say traditional to the portfolio.

**Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?**

Well we're in the midst right now of re-writing; that is what all this is of re-doing the curriculum. I have each grade at the request of the Superintendent re-doing it for one of our QAAR assessment that we will be undergoing. So, part of what they're doing, or part what they've been asked to do, while they're debating or looking at what they're going to teach and what standards and what have you, is to look at assessments and how they might change or even look at some types of assessments if they don't fit in with what it is that they are trying to do now. There are a lot of people particularly in the math
department who are still pretty married to the whole traditional test and quiz format. And I am not, I mean I will defer to them I guess, in that I will say that if it works for them I not a mathematician if it does seems as though it works, I am not against that. I will defer to them. Teachers are directly involved in the assessment. And they want to be involved. When we began in the beginning of the year that we were going to rewrite the curriculum it was well, oh my god, how are we going to do that, which is fair. Once they saw the model they said yeah we can do that. This is a good way to direct it. This is something that you say you want to do.

**Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?**

I think just asking for it on a regular basis. Asking kids, I think we get away from that sometimes as teachers. We don't ask maybe because we don't think they're sophisticated enough to know what's working and what's not working. Or because we don't we think that we were never asked, so that just the way it's supposed to be. But I think that effective teachers, good teachers, will ask, tell me perhaps, at the end of the unit or the end of a lesson you say, "What you think of this?" But you have to really stay on it. Very often you will
say what did you guys think of the story and the response is "It sucked I hated it." So you know you let it go. Maybe when you get older you’ll, I remember when I was teaching for example I taught I had a couple of books, it was a Catholic school so they were pretty loose in terms of what I could assign. And they basically gave 10 books that I could assign. So I had Into the Wild which they loved, they absolutely loved it. Another one that I can’t remember what it was and they loved that too. I thought I obviously have my pulse on kids and I know exactly what the kids want. So we came to Catch-22 which was one of my favorite books as a kid, they hated it. They did everything but practically throw it at me. And that was something that I absolutely loved. And I asked them, “Tell me I want to know why you didn’t like this.” And it’s not because it was too long because it is not as long as some of the ones you loved. It’s not because it was about war because there were books about war that they loved. What didn’t you like about it? And you know I just wouldn’t get off that subject for 3 or 4 days. They wanted to move on. We just didn’t like it okay! We just didn’t like it. Well tell me why you didn’t like. I am not saying that you were wrong not to like it. I just want to know why you didn’t. So those are the kinds of things that I think teachers have to do. With the understanding that just because you don’t like it
doesn't mean that we are not going to do it. But it would be
good to know what it is about the material, or what it is about
the way I present it that's turning you off.

**Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?**

Well we have a number of ways that kids can access
computers. We have regular cycle classes and one of them is
computers where they work with specifically a "computer
teacher". They're also laptop computers available for teachers
and language arts. I have not seen a lot of computer use from
math teachers. When I have asked them, and I won't lie and say
that I have really delved into that yet in detail, but when I
have asked them because they feel kids get off track and are too
interested in looking at the computer as an easy way to answer
things rather than trying to work it out in their heads. I am
of two minds about computers. You are probably familiar with
the work of Neil Postman. He died a couple of years ago. He
said in my lifetime I have seen the slide was going to be the
next thing to revolutionize education followed by the television
and followed by the computer. And each time it really boils
down to a good effective teacher, one-on-one with the kids. And all this other stuff is nice but it's just extras. And I agree
with them. But I also know that there are many things that can
be done with computers; that they are such a time saver for teachers that they free teachers up so that they can spend more on that one-on-one time with the kids. So we do have access to a lot of computers. We have a very nice library. We are a small school with less than 300 kids. So there really is never a time that the teachers can't get access to the computers.

**Question 5.2** Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

Teachers work hard to provide teachers with all of the elements necessary to succeed. They do projects, plays, oral presentations and the like. They make use of cooperative learning groups and the language arts teachers use learning centers to differentiated the learning.

**Question 5.3** From your perspective, how does differentiated instruction impact student achievement of high curricular objectives in the middle school?

The kids who will do well it seems to me as though they always will do well. And I don’t mean for this to sound the way its going to sound, but they would do well even with a bad teacher because they are driven, because a lot of the time it comes from home, because it's important to them. They will work at it. The kids who really, really struggle, there are all
kinds of programs and strategies involved for them to bring them up. The ones I worry about are the ones that are kind of in the middle who are not high, high, high achievers nor are they really low, low achievers, they are just your "average kid". And I think those are the ones that sometimes feel like there is nothing for me. There is gifted and talented. There is resource room. Well, what about me? And that's where I think the differentiated instruction can be most useful. Because within that group, which really when you look at it, numerically, it's probably the largest group. There are grades within that group, there are kids who are kind of leaning to the high end, kids who are leaning toward the low end and kids who are in the middle. So you really could, instead of looking at as if you have three groups, you could have four or five or even six. And I think that one of the things that biggest struggles we have, is to make teachers understand that this isn't going to make more work for you, because they are saying so what are you telling that I am going to have to have six assignments. I am going to have the kids read six books. How am I going to keep up with this? That's not how it has to be. In the long run, it really seems like it's going to less in their work. It's going to keep everybody on task and everybody doing what they're
supposed to be doing. The results and most of the research that I've seen says and you've probably seen too, it works. I don't think that it's been alive for as long as it has for any other reason except that it works.

Middle School Principal # 2

Question 1.1 How long have you been a middle school principal?

I have been a middle school principal for 8 years.

Question 1.2 How many years have you worked in the field of education?

I have been in education for 29 years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes, I am familiar with the work of Carol Ann Tomlinson.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

Well, I think that we do make a concerted effort. We certainly utilize professional development opportunities to discuss the planning and creation, design of lessons to meet the needs and to ask students to stretch. I've always said to my faculty members at what we need to do or said simply my job is to get them to stretch and their job is to get the kids to stretch. Without any hesitation, we have to make available to
very youngster the opportunity to succeed. Clearly what that entails as we now know is a variety of approaches. I think it is clearly evident that a lot of what has happened, as I made mention of Carol Ann Tomlinson, I think a lot of things changed when people like Eric Janssen did his brain research. And I think when people identified, like Jensen and some others, learning and listening and understanding that some kids needed to read a book and some kids needed to have a hand on experience and some kids orally, as you know. Although lecture is not my favorite, I guess there are some kids who would respond almost like we did in a university setting every one of us. And then clearly some kids need that visual graphic. Once the awareness became a part of our understanding of how differently kids learn then we previously anticipated, how much we have to get away from this one-way, whole group, one-size-fits-all mentality, I think things started to change.

**Question 2.2 How do teachers create a climate where all students feel included?**

I think what you have to do is teachers must spend initially some time not only evaluating the students that each has in September let's say, but attempting to look at the data of the test taking experience from the previous years. One of the good things, although I am not a strong proponent of the way
Differentiation

in which No Child Left Behind has been executed to say the least, I will say that the data that we now have that is much more uniform and is much more in conformity with some criterion referenced ease by which to look at how we match up with our standards in the state let's say. I think it creates a foundation of understanding and data by which teachers can then say, okay this kid needs greater help. I mean we now have the ability to break down even within the state testing language arts, let's say, whether or not the child needs greater reading comprehension support or simply writing or whatever the case may be. I think we're much better equipped. So hopefully teachers, I mean we talk about this, the teachers we begin every single school year talking with the teachers, the teams, whatever the grade level team or special ed or whatever it is. We talk about disaggregating the data. We talk about subgroups. We talk about who we are dealing with. We talk about understanding and targeting areas of weakness. We talk about QAR objectives. We talk about what kids tend to do who are not readers.

Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.

Unlike my high school experience, students in this kind of venue, this 6, 7, and 8 environment, they're very, very demonstrative. They are very chaotic in their levels of
maturity. First of all physically, physiologically, literally you have kids who are say 7th graders who are 12 going on 13, and then some even slightly older, some of whom are 5 feet tall, and some of them are 6 feet tall, you have girls who are fully developed and who look like high school juniors, and you have girls who look like they belong in the fifth grade. You certainly have maturity differential. The kids replicate that. The kids yeah, the kids I mean I haven't thought about it from that vantage point. But it is true. The kids, in a sense, set the environmentally speaking tone because they can either be those who are literate, those who are able to grasp quickly, and then quite frankly one of the things that I've done here, in order to protect the integrity of the instructional opportunities for all the kids, I created something here called the penalty box. And what that does for the teacher is it allows the teacher to attempt to get the kid to conform behaviorally, but if the kid doesn't, then she gets to pick up the phone and eliminate this kid from the class period for that one period or block period. But, yeah I really hadn't thought about it that way, but that's very true, and then of course commingled with all of that are the kids who are much better off working, say, technologically on a computer. And those kids who are better working on a cooperative learning project.
Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

Well, I find that they are not all fluent in all of this. But the large majority not only have an understanding, and we have certainly afforded them in this district tremendous opportunities for professional development. We brought in a gentleman named Dick Piasa, I don't know if you know him, he is probably regionally prominent, I'm not sure that he is nationally prominent. He has taught something called 4MAT for the teachers. The teachers have learned to function on a wheel sort of speak. And there is an opportunity to diversify the activity. There is an opportunity to utilize a variety of methodologies. I think that our teachers, especially this school, of all the schools that I have been principal of, this is the most positive, most optimistic, most adaptable faculty I have probably ever worked with and certainly one of the best.

Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.

I think they all know, first of all, a lot of the methodologies that were initially employed because of our professional development in this district have evolved, I think,
more favorably towards a Socratic methodology of communicating. I think there's more cooperative learning now than there used to be. I want to believe that because I do, I've always been during the past 15 years, I've been a big proponent management by walking around. So they know I'm coming into these classrooms a couple times every week. I don't get to every single class five days a week ago at all. But I'm in every class a couple times a week. And, I'm only there for three or four minutes. But I guess what I'm trying to say is that they know my expectation is that they are going to meet the core curriculum content standards number one. Number two, they know that my expectation is that they are going to meet the needs of all learners meaning the subgroups, meaning that some kids need to have hands-on, and especially in the middle school, especially if you're functioning in a block, which is what we do, we have a modified block, math and language arts are blocked. We are hoping to go to a more expansive block across the board. But that's either next year or maybe even in the future. But my point is that the teachers all had to learn, especially in the block, that this is number one we don't want anyone lecturing. They all know that. They have all heard that. But number two, we anticipate that if you have an 89 minute block, with a three minute stretch somewhere in between, among
the 89 minutes, my anticipation is that you're going to be doing 4 activities during that time. And they better be different. But simultaneously, the teachers also all know that I am very understanding, very liberal if you will, when it comes to their judgment. I don't micromanage. I call people in here and I asked them questions. I don't scream and yell and curse them all out stuff. I don't do any of that. I will give you a great example. I have no tolerance for a lot of the videos that are very popular. Now, I will tell you the exception, and this is where I am somewhat hypocritical, I guess, I don't know if hypocritical, I don't know if it's necessary for me to be that rough, but Southern Law Poverty Center teaching tolerance is one of the incredibly fine organizations. And all of the material that comes out the teaching tolerance stuff, which I am a big, big supporter of, when they bring those videos into the classroom, which is not very often thank God, but those I'm even, myself, when I walk into those classrooms, I'm mesmerize. Because it's all about how this country treated black people for example 50 years ago, and still I have a lot of trouble with all that. And yet last week, just last week I had a teacher, God bless her she's a lovely person, she's been here only long enough to, she's a long-term sub. She's a maternity leave sub. So, she did know how strongly, how adamantly I felt about this.
She decided at the end of 40 minutes, no, no that's not true 43 minute period. I think she decided after about 36 minutes that the kids could turn on the television and watch this cartoon. Or turn on maybe it was a video. I don't know whatever it was. I don't have a lot of tolerance for cartoons, for animated; I'm not in favor of the stuff. So, I guess my point is I brought her in and I mean again I just asked questions. And I ask about time on task. And ask about could we not have had a discussion. Could we not have gotten into, and don't get me wrong it was a science class for special ed kids. And I said to her even if it wasn't science, even if you discuss the primaries going on right now politically. Anything, anything, discuss or stand them up and do jumping jacks. But sitting, becoming spectators, they do that Saturday morning. So, I'm opposed to those things very adamantly. And every teacher in this building who's a full-time regular, they know all of these idiosyncrasies that I have, my own neurosis. So they try to avoid that because they really don't enjoy getting these little notes; please see me. So when I bring somebody in, I talk about expectations and I want them to talk to kids about expectations. And that to me is the bottom line. If the expectations are high, for every single kid, then we will accomplish. And, I believe in continuous improvement. So, simultaneously what goes hand in glove with
this entire thing is, if the kid starts reading at the fifth-grade level, but he makes progress to the sixth grade level, to me that's a good thing. We don't all start at the same level. One of the things that I have often said to teachers is do you realize that if a boy, especially a boy, was born in September, will let's use August because most of the kids in September wait a year, but if you're born August as opposed to somebody born in January, my god that's eight months or seven months or whatever it is. That's a big deal in the sixth grade. So maturity is a factor. Reading ability is a factor, a whole bunch of things jump out at me. How about the kids who come here, and we have 17% Portuguese speaking native language, first language, 12% Hispanic. Well that is almost 30% of the school. Those kids do not function the way you and I did growing up. And then at the houses of the socioeconomic disadvantaged, they have more televisions than books. So I mean we're dealing with all of these variables that we have very little control over so we need to address and gauge and try to find methods, now I will openly admit to you if the teacher said to me or well, God you hate these animated cartoons, would you mind if I handed out comic books to people who can't read. I'd say no, I think that's great, think that's wonderful they're reading. But they are not spectators they are reading, which I think is a big deal.
Question 3.3 What experiences are used to engage students in their learning?

The experiences are anything from these cooperative learning experiences, activities in which kids have problem-based or project-based learning activities to group discussions to debates, which I'm big on. What I like are higher order thinking open-ended questions. I will tell you I think this is the key, and I've always believed this, I believe that in all of my experiences I'm absolutely convinced that my thinking is accurate. Effective teachers are people who know how to formulate purposeful analogies and support those analogies with essential pivotal questions. I taught American history I never lectured. I never lectured. What I did, and this is what I want to see teachers do, and this is what I preach and teach all the time. Because what the heck, I'm teaching teachers. That's what I'm doing here. And they have to meet my expectations. So again everything is based upon expectations in this building. And I've said that from the time that I got here. What I want and I go into to classes and do this sort of stuff. I mean if a teacher, for example, has an emergency we accommodate and are understanding. And if I have to cover a class, I don't try and teach Spanish, for example. I will go into the class and say to them have you ever heard of Thomas Jefferson? Then I get them
to tell me who Thomas Jefferson was, or what they remember. And they get confused between Jefferson and Madison, but nonetheless again I will talk about the Declaration of Independence and all this other stuff. And then I'll say them say what you think of him? And they'll say he was a good guy. He had the right ideas. Why did he own 200 slaves when he died? And God that blows them away. So that's the kind of teaching I did. I wanted kids to come in and argue with me and debate and when I walk into my classrooms, and I hear kids debating with each other with the teacher. The teachers in this building were told by me several years ago every class must begin with they do now or with an activity or a pop quiz. I don't care what you call it. We have one teacher who calls the problem of the day. But they have to do something to get these kids immediately. I don't want time wasted. I don't want to see kids lined up at the end. I want every minute used. So how do we go about doing this; we utilize a wide variety of activities, anything from a problem-based learning experiences to groups in discussion to teachers challenging kids, just like I did when I was teaching, and debate and discussion and a lot of it is question and answer. The other thing I want teachers to do and I harp on this, I don't want just the ones who raise their hands to be called upon. You call upon everybody. You call upon, my God,
you call upon the kid who won't select himself in. That's how
number one you get him to participate. If you don't get the kid
to participate, he's not going to learn. Number two, you keep
him from talking to his neighbor if you call on him. In fact,
if you see somebody talking to his neighbor, call on him. And,
if he doesn't know the answer, if he doesn't know the question
you just asked, then, I mean not everybody agrees with this,
then, you go to somebody else and embarrass him a little bit and
say maybe you can help him. I'm very assertive. And I want
teachers to be assertive. And I want teachers to go after kids
who don't listen and then I say pick up a phone, call the parent
that night and say I had to stop your son from talking to his
neighbor and he didn't even know the question that I asked him.
So all of these things get kids engaged, and the reality of
everything that we should be doing in every single classroom is
based on student participatory engagement.

Question 4.1 Describe the methods used by teachers to
assess student progress.

The assessment tools I don't like are multiple guess, I mean
traditionally we call it multiple-choice, I call it multiple
guess because I'm being sarcastic. I'm not a big fan of any of
that. I believe the best thing we can do to assess is to ask
kids open-ended questions and force them to explain why they are
motivated to respond that way. Number two, I believe writing continually. I believe in writing essays. I believe in kids reading. I believe in kids participating in projects. I believe in kids, I mean I'm big on problem-based learning. I think are No Child Left Behind testing is an abomination, and I think the thing that's most shocking is that we have IEPs for special ed kids and we tell everybody federal mandate that you have to live by the IEP, and then we give them the same damn test everybody else takes, and we say now it's time to test you.

Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?

Well unfortunately, whether we like it or not, the statewide testing which is as I told you I don't think is a very good system, dictates what we do. I mean the truth is that when I arrived here we were a school in need of improvement. In years two and three we made AYP. And then unfortunately this past year our special ed kids, well our special ed kids had done too well the year before so then we did make the necessary jump, I mean they only made safe haven. I mean let's be realistic they're special ed. So by definition they shouldn't be judged the same manner. Well that and make the 10% jump in safe haven, so now we're back to early warning in those two areas, everything else we were satisfactory, proficient whatever you
are term it. But my point is this, the curriculum then is therefore bogus upon in correlation with the results from the data that emanates from the NCLB New Jersey ASK or used to be GEPA. I don't think it's very healthy. The curricular offerings should be, I think, much more in concert with the problem-based learning experience, with inquiry learning, with hands-on, with a more laboratory approach. But what we have to do is we, I mean we don't teach to the test to be really honest, somewhere around January we start indoctrinating these kids in the use of a calculator to a greater extent. We indoctrinate them in test taking skills. I mean the reality is, I mean it's very obvious I used to personally, long before there was NCLB, I used to coach kids on how to take SATs. And there's a man at Rutgers that I met a long, long time ago. He was the dean of the school of education. I think he teaches statistics. I think he got tired of administration. At any rate, this is amazing to me, this is shocking. He was so well-versed in taking these SATs that he could take five sets of answers with no questions and get three out of five right regularly. Because he learned how to play the game; in other words out of the five answers two of them on the extremities were so bizarre that you could get it down to three, and he was so sharp he could get it down to two, well that's 50-50. So, I taught my teachers you
can do this. You can teach these kids how to look for the ones that don't fit. So it becomes kind of a game. Getting all the way back to your question, I'm sorry to say that because of No Child Left Behind we've had to get involved in this practice, practice, this sort of stuff. And what I prefer to do is to see assessment based on learning based on the best methods by which kids learn. We all one of the things that I believe middle school is really, really all about is learning how each person learns, for you for me. At some point or another, I'm a visual learner for the most part. On the other hand, if it's called American history you could talk, just talk and I could pick it all up. Now if it was called geology, as evidenced by my grade at the end of my quarter when I was an undergraduate, none of it stuck because I didn't care. To this day, I don't know stalagmite from stalactite and I don't give a damn, isn't that awful. I will tell you one thing. I got a D and my father almost, I thought he was going to have cardiac arrest. That's when he said to me maybe you don't need to go back to Michigan State you can just go to school here. You know you don't need to do any of that stuff.

Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?
We obviously do, in addition to informal, informal meeting my walk-a-round's. I'm big on reward number one. Number two, I have something in my faculty meetings every month now called DOBI, display our best instruction. So when I go into these classrooms I will tap a teacher on the shoulder and I will say would you be good enough to present that at the next faculty meeting. So the teachers and to some small degree every once in awhile you'll get a teacher who will say oh gosh do you really, really need me to do that, because they really don't like standing in front of their peers. And I'll say yeah I'll say to them with some pardon me for saying so but you should be flattered. And so they know that that's feedback. And it's reward. And then they go in and they present. They also get very direct feedback through the formal observations as you can readily see I am very direct. I mean I am diplomatic but I don't mince words and I tell them over and over and over it's all about expectations. Every single formal observation has at least one if not two or more recommendations because I think we all can improve including me, every one of us. So feedback in fact what I have often said I mean it's interesting that you use the word feedback, none of us, not you not me not anybody, none of us improves without feedback. When I drive away from here everyday I spent some portion of that time to re-play my day. I
am very reflective and it is very healthy because I ask myself have I been the best that I can be. And some days, I just haven't and need a kick in the butt and I learn from myself. I learned through that evolution of how did I spend my day and what did I do and what could I have done. But even better than that is what teachers, and I beg them to do this, I want them to come in and tell me how they feel. I have something called a faculty roundtable every so often and they tell me when they want to have roundtable, meaning that I'm going to go in there, and from 2:45 the end of school until whenever they say it's over they shoot questions. They say we don't like this, which is what I want, and then we have a part of every faculty meeting its questions, concerns, issues. And I want them and they know I want them to say you know you could have done this better. I had a teacher aide last year who, I'm very unorthodox in my punishments, I mean really it's consistent but it's totally unorthodox. Kids were throwing some girls' pair of shoes in the garbage so I had these kids walking around the whole afternoon without shoes on. I took their shoes and I put them here and there was a teacher aide who thought that was just a horrible decision. And I said maybe it was, maybe it was stupid. And he said well they became the focal point of a lot of discussion because they were kind of playing with it. And I said you know
you're probably right, I probably shouldn't have done it. It was probably stupid. And he said well do you really believe that? Sure, it was probably a stupid punishment. I try to show them that first of all I make mistakes I do some things that I shouldn't do. I have told the entire school about the mistakes that I made because it's no big deal, I mean, none of us is perfect. And I believe with all my heart that I do best with people who I can bring it here, and believe me every single person who I recommend for appointment I want to know and I can tell very quickly I don't want anybody who is defensive. I don't do well with those people. You know these people, perfectionist. I don't do well with them in some of the interviews if I see somebody going down the wrong path I will say are you a perfectionist? I should say stupidly. That's not fair, it's a bias. They think that the politically correct answer is yes. Those people don't end up in my building. I don't want them. If you think you're going to be perfect, you're not going to work with me. I need people who believe in continuous improvement. I need people who want feedback. I want people to come in here and when I'm finished saying couldn't you have done that a better way I want them to say thank you.
Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?

We have three cards, each has 20 laptops in the teachers will invariably will take out will reserve cart for a week. And they can either use the laptops in the classrooms or they can use the laptops in the library media center. We have a media center, it's pretty good. They have a very good librarian. We're just beginning to get involved with a middle school research paper. We are just beginning, we are just on the cusp of that. What I've done is I've connected a director of technology with a language arts supervisor, and who is also the social studies supervisor, and we are going to this year have the development of an eighth-grade research paper that will be integrated with language arts in the connecting the social studies and language arts classrooms, which of course is a logical connection. And then simultaneously the librarian will be teaching them research skills and how to utilize computers for research purposes. One of the things that I did when I arrived well year after I arrived here, was not to the delight of everybody. We had a computer literacy course and really honestly it was pretty Mickey Mouse. These kids knew far more, I mean they were instant messaging when they were little so they were far more in advance. My answer is that I went to some of
these people that I'm talking about and I'd say really because I had teachers say to me hey listen you should have never taken that computer literacy course out because although we have technology education and we have a very, very talented teacher. He's got a curriculum for each grade level 6, 7 and 8. And it's a cycle, a 9 week course. But he doesn't have the time to teach every single one of them how to produce, technologically speaking, utilizing a computer a paper. They really don't know how to produce a term paper or report. It's like somehow I guess what I should've done probably retrospectively is I don't know how I would have done this, but instead of allowing for what existed instead of throwing out the whole thing I probably should have there was probably a better way of going about this so that the teacher or some teacher could have come in and taught these kids not just keyboarding, but some expansive manner in which to learn to utilize a computer to the benefit of writing a paper. And I guess that didn't happen. We certainly have activities where kids like one of the science teachers will take the kids outside and they do some simplistic outside natural nature wise lab work. So they went around the entire perimeter of the school and they did something to do oh I know, I know I should've remembered this, they not only evaluated and
the school and the property but they picked up the garbage. It was a dual purpose. It was multipurpose.

Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

I have discussed many of the things we do here. I would mention the fact that we are heavily into cooperative learning and problem-based learning activities. I have spoken about the ways that teachers get kids involved in classroom discussion engaging them in the learning process.

Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives in middle schools?

Yes, but before you get to the yes, I think that we have a long ways to go before we made the appropriate expectations for accomplishing the level of demand that is placed upon a teacher who himself/herself learned math a certain way and I think our tendency is to teach the way we learn. I know that we have introduced Singapore math here. Personally I didn't grow up with Singapore math, I didn't grow up with manipulatives. I didn't grow up with, I mean I grew up very differently. But I don't think I could walk into a Singapore math class as good as I was in algebra and teach Singapore math unless I had a
tremendous, in fact, I'd have to you know one of the things that we have to do and this is the bottom line. One of the things that we have to do to be able to accommodate the answer to that question is to unfreeze how people function in a professional setting in a classroom based on their own learning experiences, their own growth their own preferred way of learning and teaching. We have to unfreeze that. And then we have to transition them through considerable professional development and refreeze. And that is a very, very, very difficult task. But if it's done properly, if we can get the teachers to see how difficult it is for learners who don't learn the way they teach to learn. We would move in the direction of accomplishing that objective. There is a movie that came out seven or eight years ago and it shows what a youngster who is dyslexic functions with in a classroom. And it is amazing. It is mind boggling to imagine. It's almost like going to your and never having been there before. But, how about if I said to you when you're right-handed, you have to throw with your left. Oh, well you can't do it, that's too bad.

Middle School Principal # 3

Question 1.1 How long have you been a middle school principal?
It is my second year.

Question 1.2 How many years have you worked in the field of education?

31 years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

I would imagine the thing that we are encouraging or that we push is the groupings the projects the way that the class would try to do a student-centered environment where we look at the physical grouping of the classroom to make sure that they're not in rows, that teacher isn't traditionally up in the front of the room teaching, and we are very big supporters of different learning centers in the classroom, whether they be technology centers which we have in our seventh and eighth grade and hopefully next year in our sixth grade technology centers for them to move through challenge centers for students who need extra work, and enrichment centers for those students who are falling behind. So we look for a structure in a classroom or a class design to be very little of direct instruction. The
teacher may start off with some direct instruction but then break into centers and that's very much the crux of the differentiation. We do the team meeting thing. We are broken up in the houses here. Each grade level is two teams per grade level. And they meet once a week officially or formally in a common planning period. And at that point they discuss things, they try to do cross-curricular things, they get an idea what they're doing, as a matter of fact today we're examining a new curriculum to go through a whole humanity type of program. Authentic learning tasks, problem-based learning, understanding by design, 4MAT, essential questions, essential understanding, working backwards with what you want students to come away with in the end and coming up with thematic-based units. Teachers begin in collaboration in the planning periods. What do we want students to come away knowing? How are we going to prevent authentic learning tasks? What are going to be valid sources of data?

Question 2.2 How do teachers create a climate where all students feel included?

It is important to develop your lessons where you take into account the different learning styles and multiple intelligence theory, for example, just providing conventional learning tasks
where students write an essay or do a poster or have to perform a number of mathematical calculations only caters to two modes of intelligence. By allowing students the freedom to express themselves in a variety of ways, for example, in the eighth grade they are doing Black history month. As opposed to everyone writing a report in a conventional method of Martin Luther King they can express themselves through whichever genre they've feel more comfortable. Musically intelligent dominant students would write a poem or sing a song. Kinesthetic would be up doing a skit and students are allowed to choose the mode in which they're going to express their learning.

**Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.**

Student selection, teachers provide choice, student choice obviously is very powerful. They choose which samples are most I guess the way in which they want to engage the material. Some teachers survey the class. We are going to be looking at these this unit. Give me some ideas of the things you would like to learn about when we talk about this theme. Maybe we're doing Greek mythology. So, what are some stories that you would like to hear about, some things you have experience with and would like to learn more about.
Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

That goes back to the, to the whole thing about the different style of learning when they're doing a project and how they are choosing to complete the project. The whole problem-based learning, the felt need, are all things that we encourage them to do. And with those projects, that's where they're hitting the kid is actually choosing and by choosing they tend to pick the thing that they are better at. If they tend to be more of a verbal person or musical person they draw better and would like to express in something drawn. Not that that's all we do. But that one aspect of it to engage them initially and again it is not just the lower level of Bloom's taxonomy cognitive skills where they are just restating and retelling and comprehending. They are challenged to apply and synthesize, evaluate, speculate. And those types of skills are built in to the authentic learning tasks. I mean studies show that for students to be successful it has to make sense and have meaning, so if teachers are thinking about that then they are creating tasks that challenge students that are applicable to them, not themselves, and they really engage learners in that way. And it
is something implementing the last three years and we have an increasing number of staff buying in. For instance one of our language arts teams is working on a debate right now. And just in the sheer selection of a debate topic where the student gets passionate about it whether it's one side or the other and they don't choose their side but they had that felt need to research and find out so they could defend the particular position. And the whole class was excited about it and we had the competition piece with other classes. But they just had that need that felt need to research and it was quite successful. And she was able to sneak in other bits of learning because she had them. So much of it was so beautifully student-center.

**Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.**

When I first started here, I was given the daunting task of creating the master schedule. The following year I made an even more ambitious schedule. We went to a modified block. So, I built in collaborative planning for all grade levels. A built in the ability to have teachers, a whole team of teachers, meet with a student during an elective or phys ed or world language and a parent to provide for those conferences. So that way it's
not like we have to cover all of these people and interrupt education, instead if you build it into the block schedule you now have the ability to have that communication piece with a parent and try to empower them to have a part in their child's education, which was difficult at times. But we have a small building. The building is too small. The other thing is that the block really facilitates differentiated instruction because now science instead of teachers teaching 6, 40 minute science classes they teach 3, 84 minute science classes. Now thereby it's not like I'm going to lecture for 20 minutes and give activity and a test and move on and do it five more times. Now they have the time to create tasks and have the students really have the opportunity to use materials and engage in project problem-based learning. And now you can have that differentiation because another component that we didn't discuss is while students are centers or working on a task I can now identify deficiencies. If I see I know five kids are very weak in inference. I can now pull them from any lesson. I can work with those five students while everyone else is on task working as their ability level and just target those kids as opposed to I am going to aim at the middle and do inference for everyone. And 10 kids will be bored and five kids will get it, but maybe
sit along and the five kids who need it maybe they'll be
listening maybe not because they're in the mass. And that way
you can target those deficient areas with main lessons.

Question 3.3 What experiences are used to engage students
in their learning?

I think that from the perspective of an administrator one
of the more important things that we can do is what we have just
spoken about. Creating a flexible schedule and provide teachers
with the planning time to do co-curricular activities is what
promotes the use of differentiation. Teachers with the time to
plan together as a team gives them the opportunity employ
strategies that do engage students in the learning. They use
cooperative learning and learning centers well because they work
in an environment that gives them the chance to use these
strategies successfully. Teachers are constantly seeking ways
of involving the students in their own learning.

Question 4.1 Describe the methods used by teachers to
assess student progress.

Rubrics were truly underused in our building and now I
would say that they are commonplace. One of the tools that has
really helped to facilitate that is our three-minute walk
through. One of the Kappa strong recommendations was not just
me walking in how's it going you know good lesson but I would like to see this as opposed to an actual written document that's given to the teacher not as I got you but as a here is what we're seeing. Now over the course of the year if you get one a month and we never see certain elements that should be an issue then you know it's a reflection piece. That is one way to help them. I walked in and it's actually a lot, but once you do 5 or 10 you'll see that you get them down. You look around the room if I don't see student work what do the students feel about their work? Is it celebrated? Does it have value? Or is it just that I wrote four words on a paper and I drew a picture or does it have meaning to them. Was it something that they worked on? Was it something that they're proud of? Displays, meaningful displays, not just whatever thrown on the wall. The other thing is rubrics. We have a holistic scoring rubric in all of our language arts, most of our social studies, mathematics has their open-ended scoring rubrics. We have them on the wall. So that way they are constantly thinking about it. That is one of the things that we look to. They have to have them. We have had training a holistic scoring, what is a 3, what is a 4, compositional risk to get you a 5. Do you know what I mean? Things like that are now more commonplace in the discourse of talking in the language arts department whereas
before many people would say my kids do fine, my kids all do fine. But once we sat down and we took all the data and one of the things I did is get all the data into Powerschool. So now we can print detailed reports by teacher about how students did. And now with NJSMART, I can download that data put it in Excel and I have spreadsheets that we use in our cooperative planning and I can say by cluster let's look at the scores and what to do kids need?

**Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?**

So other assessments, performance-based assessments, exhibitions via rubrics, conventional holistic scoring rubrics, standard tests, open-ended questions, essays, portfolios are a big thing we are pushing now. Process writing, but not just this is my best writing, but process; show me all the steps, focus on the steps. By looking at the steps in September or October versus January you can gauge where the deficiencies continue and then target what you want to do before it's April which is just before March. And we are using this data right now. Today we have three vendors coming with 40 minute presentations on materials. Our goal is to come up with more of a humanities approach as opposed to each subject being isolated. I believe the more cross-curricular and more effective and
successful experience you're going to provide the student. For example when 6th grade does Egypt, they do it in all subjects. In science their learning about the leper and how you would push a block up an incline and the forces in play there. In language arts they're reading stories writing creative fiction about the Egyptian times. In social studies they're learning the structure and hierarchy of the gods. In math they're doing Egyptian numbers and again some of the formulas and theories and things that the Egyptians knew so those cross curricular experiences. Our studies are showing well, our data indicates our African American subgroup does the poorest, African American and special ed. So what are the things that we can do? The literature really doesn't interest them. We need to have ethnically rich novels and stories that would also be useful cross-curricular. In our curriculum, we only read two novels a year - language arts and social studies. In my old district, language arts did one a marking period and social studies did one a semester. So we are going two versus six. Looking at the tasks I don't believe we need to recreate the wheel if we can get a group of teachers and put in some of these suggested and/or recommended problem-based tasks where you are engaging the student providing truly authentic learning tasks but not
just for the teachers, but that would target the students, then you're going to have more success. Because it indicates students are unengaged. Technology rich more and more we are getting teachers using laptops and not saying that I need the whole cart so everyone can use it. They get set and it's a center and students rotate through and that's one of three or four centers and at the same time trying to target those subgroups.

Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?

One of the positions that we just hired is called a CRT. We used to have curriculum resource teachers in my former district and we just went with the same name here. Sort of like a master teacher or a resource teachers they get a stipend and they are resource for the department. So today instead of a supervisor having a vertical articulation meeting, the CRTs are having vertical articulation meetings where they are going over data. One of our eighth-grade teachers said I would like to go over data today. Let's look at the data, let's look at what's going on and then we can see we're going to do. So with the math, he is a teacher, not the CRT, but he is a teacher saying we need to look at the data and start going the scores and
looking at where we need to focus over the next three months. So in that capacity we are trying to create teacher leaders to lead the way to really get into the data. Although I am doing the number crunching, if you will, and providing them the data, I provide it in nice ways to view it.

**Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?**

Well we are hoping too that as we look at data we have just done our interval testing with language arts where they were scored. That's another assessment that I forgot to mention. It's broken down by teacher. But to show and they know what their peers are doing they know exactly which one of their peers is going out of the way and doing different things, and if we can show in the data that their scores are going up, you know what I mean, it's just one more way to convince them of hey we do have some old dogs new tricks and all that. It is difficult and it is a struggle, we started off and we really abandoned them. We have come full circle to try to make it come from them as opposed to trying to, I mean, my first speech to them at one of my early meetings of the faculty you're either with us or you're not and if you don't like it retire. I wasn't very popular in the beginning because I just had no patience. But we
have come full circle on that. Some people really should retire because they are not willing to learn new things or to you know our whole goal is everything single thing we do is to increase student achievement. I mean that is just our focus of everything. As long as what is happening, whether it is a trip or if it's just somebody a speaker somebody wants to bring in, if it is going to help student achievement that's our function.

Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

Well, I think throughout we have talked about ways that we have created an environment where teachers have the ability to risk in a variety of ways. We have created with the block, ways for teachers to collaborate in ways that they may not have had in the past. In addition, when you give teachers these opportunities, they will attempt to try new strategies that will in the end benefit all students. We have specifically talked about cooperative learning and learning centers. We have talked about projects and project-based learning activities. And we talked about how I as administration ensure that these are the kinds of things actually happening in the classroom via the walk-through observation.
Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives in the middle school?

Most definitely and quite simply your different learning styles you can't just teach to the middle, and differentiating it and having different opportunities for learning within the classroom just addresses the needs of all the students. There are more students than just teaching to the middle. I mean if you're doing one method, if you're just up there instructing, there are kids that you're going to lose on two ends of the spectrum and the differentiation allows our higher functioning kids to expand under the direction of a teacher. And it also allows our lower end kids to get some remediation and to get some help and if there is a skill that they missed rather than the whole class moving together, hopefully they can move forward together, but the children that are having difficulty in some of those areas can be brought aside, can be brought up to speed, so they can run up and catch the train that is moving forward so that you don't lose anybody. You don't want to lose people which are I think what we had been doing here. And at the middle age this middle school level and you know the dynamic of a student, the psychology of a student, is so challenging and
even our kids just being many of them students of poverty. Education isn't important to them. They would rather save face and if they're going to be embarrassed or they're going to succeed they would rather not be embarrassed whether it's acting up, I mean, it just escalates and it just snowballs. And you know without the differentiation I think our student-centered our differentiation has just I really believe, has a lot to do with our successes here. And it's just getting people to buy in and slowly and surely we are. I mean look at where we were in just three years, I mean I wasn't here but I was in the district. I knew where this building was and I had been most of my career was at the high school and I definitely knew at one point they said do you want to go down there, and I'm like no way. But right now we have more technology than anybody. There is a culture change that I believe we are facilitating and now the teachers are facilitating and they're having pride to go to a district-wide meeting and have them say that our school has made great strides and have everybody cheering and clapping. It does improve that ownership. And again the differentiation is been something that our superintendent has been just banging us over the head with. We don't have an option. By differentiating you provide quality one-on-one, one-on-three, one-on-five small group conferences, particularly with the
writing, you know what I mean. If students are on task and learning, you then can pull students and conference, that's only real way to attack the literacy with the portfolios. Portfolios shouldn't be you give it to me and I give it back with a lot of red marks and a 3. It should be me talking to you, it should be me modeling providing exemplars and then having identified group today the topic sentence, today composition on risk, and then whatever we are targeting, I am looking at the students who are struggling and pulling them. By differentiating you're not having everyone do dittos so your learning is here and that I'm working with three kids. Differentiating provides everyone to be learning and I get to work with three kids, that's the big difference. And I think another thing another area of growth for us here has been the way we do our evaluations. Our three minute walk through and the evaluation tool we try to stress for many years, it's been more of a punitive type of thing and we try to make it more of a learning experience. When you sit down with a teacher after a lesson, especially our non-tenured people, to sit down and make it a learning experience where they are really understanding and providing them with tools, okay, this is how to make this better and this is what I want to see and really making that evaluation process a learning experience for our teachers in that way, we are affecting what is happening
in the classroom because they are kind of doing what we want; we provide modeling for them, we send people in, we send them to look at other classes where it is working well but more of an encouraging, collegial type of atmosphere.

Middle School Principal # 4

Question 1.1 How long have you been a middle school principal?

10 years.

Question 1.2 How many years have you worked in the field of education?

33 years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes, I am somewhat familiar with Tomlinson. I would not say that I am an expert.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

I would say that especially through experience, the use of rubrics is a big one so that they can, you know, have the assignments open-ended enough so that those kids who have more ability can take it a little bit further.
Question 2.2 How do teachers create a climate where all students feel included?

Well I think that has to do with relationships, you know, from simple things like greeting kids at the door using the names of kids. Like our district is good. Our teachers, you know, like go to the basketball games and three or four teachers are there just kind of showing the kids that they think they're important. I think that's a relationship thing. You know the whole idea of the kids don't care what you know until they know that you care.

Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.

By taking leadership roles we have character Ed where peer leaders usually plan all our monthly character of activities with the guidance counselor's direction, but they plan them. And they do skits they do it. So that's one I think kids have to have leadership roles in the school. In the classroom, teachers have like activities where people play roles. The big ones in our school are like mock Congress and that kind of stuff, model U.N., so that kids dress up, they feel important and you know so it's a motivating thing.
Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

I will tell you one thing about, let's say, at our language arts program we have like when we even do core novels we have double core novels going on at the same time in the same class. So one for our hirer ability and one for may be not as high. So that's like a matter of practice instead of everybody reading the same book same theme, but two different ones, and that was planned literature circles are in that as well. You know those curriculum decisions I think also varied methods of presentation, oral presentations you know, research I think like I said I think it is the open-endedness of the assignment that allows kids of different ability levels to be successful at their level.

Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.

I would say presentations poems you know kind of like using the Howard Gardner seven intelligence kind of a thing. So that their meeting you know that kind of a you know if you're not quite as good at a form of writing you might do something
different, create a video, those kinds of things. That's what I would say I don't know.

**Question 3.3 What experiences are used to engage students in their learning?**

I would say thought-provoking questions you know it's hard for me, the teacher would have better answers than I would. But I would say thought-provoking questions. I would say research. I would say simulations. Kids play the roles of different congressman, you know they pick something like that and things like cooperative learning and literature circles you know.

**Question 4.1 Describe the methods used by teachers to assess student progress.**

I would say there's written assignments. There're presentations with really specific rubrics. There's self feedback from the kids them and peer evaluations. Peer evaluation and it wouldn't really be part of the grade part but when a kid is finished with a project he might sit down with the teacher or have a form that they will fill out about how they think they did on different aspects and the teacher can look at as well so that the kids are reflective on what they're doing. But teachers use a lot of rubrics, there is the seventh grade
social studies that did an Egypt unit and the kids of a variety of things. That might be more of a mask, a box with things, artifacts that they thought would be in there. And there is a specific rubric of the quality of the work.

**Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?**

On a more building level we have like you know teams and teams’ planning times. I think that there is a lot of thematics going on during that time so that you know teachers are planning together. And in there you know our district is a small place and we don't have an administrative heavy laden district so we don't have supervisors for every subject matter, but there is oversight, they just revised the language arts curriculum and social studies curriculum so that tends to be you know the five year curriculum cycle and then curriculum planning let’s say in the summertime, in fact, our social studies and language arts was just revised and with people that have been there, new people, so that the people who are teaching it were involved in that curriculum revision. So I would say the collaboration amongst the staff goes a long way to modify this didn't work what could we do. And interestingly enough, I think we get feedback from all sources too. In fact it was just last yesterday was our parent advisory Council. And we were talking
about like homework and different things so we have that kind of feedback as well. We have the principal’s advisory committee and I meet with groups of teachers’ team leaders in the mornings like every week or every other week, and then about five times a year we take that same group and add parents to it. So that’s kind of the feedback circle sort of speak. But you know I would say let’s say do you have a director humanities, we do have one supervisor in the district, we used to have two, that’s really involved in making those curriculum changes.

Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?

Without being in every single classroom all the time, I would say yes I know specifically the eighth-grade social studies they in fact rate that feedback from students you know about a certain project that they did afterwards like the mock Congress, they’ll ask the kids okay what did you like, what should we change, so actually verbal and written survey or feedback. Typically, this isn’t so much about differentiated instruction, but I guess in a way its a much more powerful thing, but just last week we had the week after Martin Luther King Day we had no name-calling week and the peer leaders did all the activities. They had planned it for several weeks. And
then they did things; in the homerooms we had special schedules and they went like what they did in the assembly and the whole school was there and kids had written like a time that they had been bullied anonymously and then the peer leaders were stationed all around and they'd get up and read the essay. And then they went back to the homerooms and the peer leaders, there's about 30 of them, two were assigned per each fifteen homeroom and they had the discussion about it. The teacher was there obviously supervising, but it wasn't the adults telling the kids, the kids ran that program. And then they had to design an activity where we traced our hand and then they had to write one thing in each finger positive about a person. You drew a person at random in your homeroom. So if I got you I would have to trace your hand and I would have to write something positive in each finger about you or vice a versa. But what I'm saying is its kids building relationships.

**Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?**

We make use of computer technology not only in the lab but in the classroom. When we did our principal advisory meeting and we did some budget input I can remember they said well you know I could do my lessons and PowerPoint. Okay if you guys want that instead of buying paper we bought six more multimedia
Projectors, that's two per every floor for every grade level. A lot of people are doing research using the lab. We used to have a corner course in computers but we got rid of it because it was tying up the labs for the regular teachers, because okay if I'm doing this oh I want my social studies class but I can't take all five periods because during periods four and six there's a quarter course cycle so I could get in there. So we do have a computer applications for the sixth graders; we maintain it because they're on a little bit different schedules but that doesn't mean they're getting less technology in the seventh and eighth grade. It's more of an integration into the curriculum. So computers and other materials are incorporated into classroom activities.

**Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.**

The teachers do things with the kids like projects and presentations or plays or like what I said about the kids doing the mock congress. The teachers get the kids involved and get their input to reach them at their interest level. And just the kinds of things you know like I have talked about.
Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives?

It creates an ownership amongst the kids. The biggest thing is if I can put one sign up with anything in the school all over is like you know you are important and you know kids are not going to produce anybody's not to produce in your organization whether you're a teacher or whatever organization you are working on if you don't feel like you're valued. I think we make the kids feel valued as much as possible and then and I think that carries over to the work. Okay it's like if you value me then I don't want to let you down. I don't want to disappoint you by giving less than my best effort. I am out there every morning greeting students. So those are the kinds of things, so that when I know you I know your name so that if you're going to disappoint me its going be harder for you because you can't slide by. So I think it has an impact that way and I think that kids will work for their teachers that they respect and feel that the teacher cares. I think that goes with the atmosphere. As far as the differentiation, I think as far as strict differentiation, and I remember when I was in another district we did a workshop and I can remember the activity with like a bag of things - it was more like an elementary activity
but some kids let's say would look at a picture and respond to
the barn name, some of the animals, somebody else to do
something more complicated. What you have in the middle school
curriculum and like I said the best example is our
differentiation in the reading materials. So I think there is a
mix there like we don't have homogeneous grouping except for our
math acceleration which the research shows that I did a thing
years ago when I was a curriculum coordinator in my first
administrator job in the early 90s. The research kind of showed
at that point heterogeneous grouping helps kids most of all.
The only exception that they saw to that was in the area of
mass. And this was in the day that a lot of schools had
tracking. Now we'll have any other tracking other than in math.
We do have some supplemental where a kid is identified by NJASK
scores or whatever are taking an extra math course and they're
doing that and so we have that. And so therefore the other
classes are heterogeneous, so like social studies is also
heterogeneous, science is heterogeneous, language arts is
heterogeneous.

Middle School Principal # 5

Question 1.1 How long have you been a middle school
principal?

6 years.
Question 1.2 How many years have you worked in the field of education?

In the high school and middle school for a total of 14 and at the college level for 3; so a total of 17 years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

Well first we use a lot of data driven instruction, so basically we look what we did this year. We took the test scores from the NJASK and we have the detailed breakdown of the clusters and which the students are strong and what their weak in and we gave each teacher in the building a copy that. And they are going to set their lesson plans and set their groupings of students within the classroom up by looking at that data. And the students who are weak in one area and strong in another, they're going to have groupings and that, in that and they're going focus on those areas more so to bring their abilities, their skill levels up in those areas. So that maybe it would have an impact on the test and also maybe would have an impact on instruction, and they're going to base their assessment what they're going to do is when they are doing their lesson plans we
urge all of our teachers to look at the assessment first. Then they can build their lesson plans from the assessment as opposed to doing it the other way. So we want to the end first and then we're going to develop the means to get to the end.

**Question 2.2 How do teachers create a climate where all students feel included?**

Well, just by the design of the classrooms, we are struggling a little bit a couple of years ago, actually last year we went through a five to eighth grade model here in the middle school. We were previously seventh and eighth grade for a while. When we went to that model of five through eighth grade the seventh and eighth grade teachers are starting to learn a little bit from the fifth and sixth grade teachers because as you know instruction weakens as a child gets older for whatever reason. So what we looked at is we looked the LEADS Model. LEADS is basically where we group students in groups and it LEADS fosters itself to differentiated instruction. They have four different things, it's like a four group, they have four different things going on in class at the same time based on that same lesson. So what we looked at when we try to get every student engaged in the classroom instead of having that lecture style class setting with the desks in rows and the students scattered all about the room we try to join
students into groups and we took some things from the cooperative learning thing we took some things from differentiated instruction and we try to create small learning communities within the classroom. So that way when you're talking to one person within that group all students is basically getting something from it as opposed to the lecture style setting where you're speaking to one kid, in one seat, in one row then you don't know if all of the students are getting something.

**Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.**

Well, what we had maybe for at least the last three years we have a program called the positive behavior program. And we looked at discipline of students that were good disciplines, things that students were doing well as opposed to basing it on a negative. So we were trying to be proactive that way and looked at discipline, good discipline, and examples of good discipline, and we modeled those behaviors in the classroom. We gave rewards for those behaviors in the classroom. Let's say we had an ID push. Students have their ID we gave them a ticket. We gave them a ticket we put it in a jar and at the end of the month there was a drawing in every homeroom and maybe you get
five prizes in each homeroom then there was an overall drawing for the whole school and we were given away things like iPods, playstations, bicycles things like that. So the students were motivated to act positively during the school. Actually, we had a grant from the state to do this program and also from my experiences in my research there were some things that we were able to input into it and the program has been successful. We've kind of the grant we don't have the grant anymore this year however we are still doing things to keep positive behavior going on in the classroom. We don't give out the big-ticket items anymore but what we are doing with the structure of our classrooms, we are in teaming, we do teaming, we have block scheduling and what we do at the classroom setting we put classrooms right near each other so our passing time we have a two-minute passing time between classes because the students are right across the hall from their next class. And to cut down on any discipline problems or anything like that we're in a middle school now remember that the seventh and eighth grade, also what we have is the teachers walk their students to their next class. And they pick them up. So if the students are in lunch their teachers will come from their lunch and go and pick up their students in the cafeteria and walk them to their class. And that is across-the-board. In the morning if you come and see our kids in the morning there will be outside and all of our
kids line up, not just the fifth and sixth grade kids, the seventh and eighth grade kids because on the ground we have our team numbers. They line up in their team numbers and the teachers come outside and pick them up. So the students are buying into it and you know we are constantly congratulating them for being good in school and they are picking up on it. They are modeling those behaviors that we want inside the classroom and it's turning into some good instruction going on and the block scheduling really helps. We are trying to increase our math and language arts scores so now we have a 90 minute block in each of those subjects. When I see the block schedule doing is creating more of an elementary environment. There are in a self-contained environment. And the teacher took as much time as possible that they needed those kids to understand whether it be a 90 minute block or 120 minute block. Whatever they needed they taught those students in elementary school. And lo and behold what did they find the scores are better in the elementary school. So now we have to steal things from the elementary school and try to make it work in the middle school. It has been working, we have sent all of our teachers to some professional development to get better on block scheduling. Some of them have never taught a 90 minute block so we sent them to some staff development so they can get better at
teaching that block. Now I can honestly say that they all like. Before we had some resistance, like what am I going to do in 90 minutes, I'm used to teaching 45. Well those days are gone and because we are an Abbott district we are mandated to teach at least 90 minutes in language arts.

**Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.**

Basically our teachers again, and if I go back to differentiated instruction in the way the classroom is set up, the physical look of the classroom but the multiple intelligence we look at that and the brain-based research and all of those things. Teachers are told to see what students are strong in and what are not strong in and try to group students together that are strong and one thing and may not be, and group them together with students who may not be strong in another so we can have some type of pair learning going on. And not only can they learn from the teachers but from the students also. We talk about a lot of group things going on. And how we do that we also have some projects where we do cross curricular projects so the language arts and the social studies teacher would do something together because they lend themselves together very good. You know the math and science teacher would do a project
together. And then we look a project where all of the disciplines are involved so we have an interdisciplinary project going on with the whole group. And that seemed to work out and it deals with all of the multiple intelligence because everything is taken out. They will do like one person may write an essay in the group. Another person in that group might be responsible for a poster to show what's going on. Another person may have to do something else but it deals with all the multiple intelligence and it lends itself very well to instruction

**Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.**

Basically right now we're into our school for the language arts and social studies in the fifth and sixth graders and the seventh and eighth grade language arts and social studies teachers they're into that LEADS model. Basically when you look into the LEADS model it's a group setting they have different stations and I've been actually a coach for a long time and we've been doing this for a long time on a football field actually. But we have settings we have different stations and we students going into those different stations well on the
football field we have them going in at two minutes at a time and they're hitting all of these different disciplines within the same practice and it takes us maybe 10 minutes to go through five stations and we went over a number of different things. And that's what we are doing basically in the classroom. They are going to different groups and because they have the 90 minute block they break down time so they may have 10 or 20 minutes in each group to go over different disciplines within that same lesson to hit all of the various components. And that's what LEADS is basically about. And you know it's working out pretty good. And the teachers that use it you'll see a big decrease in discipline and distraction in the classroom. And if we cut down on distraction in the classroom and then we increase the learning time and the time on task and we increase instruction.

**Question 3.3 What experiences are used to engage students in their learning?**

You know just basically the differentiated instruction, cooperative learning, the LEADS model all those things and some of our teachers are still engage in the lecture model. But I think we're getting more out of the students and we're getting more rigor in our curriculum when we go with the LEADS model and
the cooperative learning and differentiated instruction and we're building up a better quality in our curriculum and more stimulating toward the students as opposed to the old lecture model that we are all accustomed to.

Question 4.1 Describe the methods used by teachers to assess student progress.

Like as I said before with assessment we try to look at the end first. So we look at what we want to assess the students start. So when we ask our teachers to develop a lesson, we ask them to develop the assessment first. So they develop the assessment and then they develop their lesson. And they teach from the assessment because sometimes we can go off on a tangent as educators and the different things that we want to teach the students. So we have a sense of what the end is before we get there, then we can teach them more effectively so you know that's the big thing about assessment that we have. And again we do have some resistance to that because we have teachers that have been here for 25 or 30 years that was taught you develop your lesson plan and then you get your assessment. So basically what we're trying to do is we are trying to cut down on the re-teaching of things. That way we can get further along in our curriculum. What we had before is we had these pacing guides where the teachers had to follow these pacing guides and they
were creating lesson plans that go along with these pacing
guides and not creating the assessment until the end of the
lesson plan and then they had to re-teach. And they were
nowhere near where we wanted them to be. So now we are looking
at the assessment first, now we cut down on the re-teaching time
and we get further along in that pacing guide, and by the way I
don't agree with the pacing guide that much I understand about
where we need to be on certain dates so we can get through it.
However, I think they take the definition of rigorous curriculum
and I think they take it wrong and what a pile so much stuff in
there that's not what rigor and curriculum mean. It means that
you're going to have a curriculum that is going to be
enthusiastic, bring some enthusiasm to the students and its
going to be a sound curriculum where they are challenged within
the curriculum and that is basically what rigor that they're
talking about; rigorous curriculum is a challenging curriculum
and its going to be built on student interest and they're going
to succeed in their curriculum. The pacing guide that we have
is working out because we are having our teachers build the
assessment first and that's our biggest thing with assessment.

Question 4.2 How do assessment strategies affect the
curriculum and curriculum renewal?
We have the backward design so it is affecting instruction because now we can get further into our curriculum. And that's the big thing if we get further into our curriculum all of those disciplines that are going to be tested by the time we get to the test, and this year our test is going to be in May, by the time we get to the test, those students have gone over all of the things that is going to be hit, all the clusters that are going to be hit on a test and they have a thorough understanding of what is expected of them when they take the test. As a result, it's less work for the teachers and the morale of the teachers is better. So you're putting the same energy toward your lesson and teaching and when you put a lot of energy into your lesson in not getting what you thought you were going to get out of it, and then we need to this backward design and you get more than you thought you would get out of it. Teachers feel that it is less work for them and they are happier and is taking less time for us to get to where we want to be.

**Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?**

To set our group we use that raw data from the test and we look at the clusters and the teachers were all given this information and they organize their groups based on the data.
Now, at certain points during the marking period, we have benchmarked assessments. We give students a benchmark test to find out where they are. So the teachers have immediate feedback you know basically every three or four weeks they do a benchmark assessment and they have a feedback of where the students are at that point. We are looking more so at the benchmarked assessments and the mathematics portion of it. However we are doing a lot of it also in language arts but the benchmarked assessments really gives them a feedback of where the students are at that point in their lesson. By the way, the supervisors are responsible for creating the benchmarked assessments. And the benchmarks are the same for every student on that grade level. So we will know exactly where our whole grade level stands when it comes to language arts or math.

**Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?**

I will give you a couple ways. First off, our whole building is wireless and wireless connections so what we have is we have at least four to five laptop carts which can go into the classrooms and the teachers can use that as an aide for instruction. Inside the classroom, we have two computers in the back of the classroom, that's two PCs sitting out in the back where students can use that for instruction to help with
instruction. We have a system called the Safari system where you can put it's like TVs inside of the classrooms. And you can put some tapes in there to assist with your learning. So, let's say a math teacher is doing a lesson on multiplying binomials. Then, we go into the Safari system type in binomials, the teacher can do this prior to the kids being in the classroom, and look at what is on the tape to help the students and aid in the instruction. And they can get a different point of view from different places and maybe that would help them because all students don't learn the same way. And all teachers don't teach in multiple ways. We have that to aid them. One other interesting thing is we have a grant from Kean where we have a one-to-one laptop initiative. We have a team of students, about a hundred students who all have laptops and they do all of their work on the laptops. So in language arts they're working with the laptops. In math are working with the laptops, social studies and science. So that's big in our technology thing. A couple of years ago we also had a team because we had a team of laptops, we had a team of students who worked with the PDAs. That team, because we went to five to eight setting this school, used to be the seventh and eighth grade building for the whole district. And we split it up as you can't keep all of those seven to eighth graders together. The technology we have in
this building, we are working with iPods. We have maybe 100 iPods. We have students working with that. We are working with GPS systems here. We had a grant called the Matrix grant that bought all of the GPSs and we do lessons on that sciences. Our science teachers will take to students on a walking tour discussing oceanography, and things of that sort, biology. So the different resources that we have and the resources that we have in the classroom as far as technology seems like it is endless. The only thing that we need to do if we have computers in the classroom and they're not being used and we should have our coats on them. They are not good for anything. And this is not knocking the older teachers, but for our older teachers that have been in the district for 20 or 30 years they're meeting us with more resistance than the newer teachers. Because, now, a new teacher coming out of college, technology is all in their curriculum that they learn when they're coming from college. And now our older teachers are learning that curriculum. It's a little tough for them but they are coming along.

Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

Well, you know I have talked about a number of ways that teachers use different ways to get to the interests of each
Differentiation

student. It's like more of changes to our organizational structure than what teachers are doing in the classroom. I don't mean that what goes on in the classroom isn't important, but that it could not happen if there were not certain changes in how we all do things. Teachers have all the best intentions but if they go looking for support and there is none to be found then you have a problem. It is hard to get teachers to realize how important addressing the needs of each student really and truly is. If we don't start, I am not sure if we will ever meet the standards set by the state and federal government.

Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives?

Well what I think is it brings the small learning community into the mix. It's great with what we have. We have teaming. So, teaming is basically an academy style of learning. We can get smaller groups of students within our teaming and they know the teachers. They have the same teachers. They have the same principal. They have the same counselor and they have all of these different resources to help them cut and they feel more comfortable. If the student feels more comfortable with the teacher, then instruction should improve. Now with that said, within that team structure that we have, we break students down
further into smaller groups within the classroom and we employ
the use of differentiated instruction. And, it is going to
improve instruction greatly and we've seen a big change in the
class where we might have had 60% of the students doing well in
the classroom when they went to doing the differentiated
instruction when they went to put the students into smaller
groups we've seen increase of instruction and grading and
everything going on. And the biggest thing that we saw as we
saw a decrease in discipline problems within the classroom,
distractions, and if you see a decrease, its because the
students they are being more excited about what's going on, more
enthusiastic about what's going on in the classroom, and its
working. And also they're seeing the real-world relevance
that's coming into the curriculum. And that is one of the
things when you look at a good curriculum the instruction has to
be good, real-world relevance has to be good, because the kids
want to know why do I need this. And also the relationship you
have to have a relationship in there. We're seeing that it's
definitely working and we are pushing for more of it to go on
but a lot of people don't understand what it is. And if you
don't understand what it is you have a problem. You know what
all differentiated instruction is? All it is is the old IEP of
the special ed student — they had their own individualized educational program, well that's what we're doing with differentiated instruction.

Middle School Principal # 6

Question 1.1 How long have you been a middle school principal?

This is my fourth year.

Question 1.2 How many years have you worked in the field of education?

22 years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes and we use them.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

Do you know anything about the LEADS program? We are so on the same page it is a phenomenal program. It really incorporates all of the aspects of differentiated instruction so perfectly that is not to be believed. This program started with Fred Carey of the state well you got all of the blurb from them I'm sure and the whole 9 yards. This is our second going on third year in restructuring. We are an enlightened district when it comes to assessment. Working with the area supervisors,
they really pioneered the kinds of assessments to give us data that are necessary for us to know where the kids are at and to use that data in a diagnostic fashion to plan assessments to plan instruction to meet each individual child's needs. And in addition to using all of that we also have reading specialists and literacy coaches as well and in math take a look at that data also and model forms of instruction for the teachers so they can address these kids' different learning styles so they can work on those assessments.

Question 2.2 How do teachers create a climate where all students feel included?

Well there's a lot of things that my faculty does. One of the things that they do in addition to obviously providing a level playing field for the kids. When you plan assessment accordingly, when you worked in teams, and by the way the whole schedule, everybody has common planning everybody. So they work in teams. So they sit collaboratively with the teachers they talk about kids they talk about instruction and together they build a plan to make kids comfortable. In terms of instruction in terms of behavior in terms of the types of activities that they do in class, you know, some days my teachers will walk into class and they will see that the kids are really grumpy and it happens with teenagers. So they will divert from the
instruction and to do a character building activity that will still have literacy and it but they are just terrific. And it may only take five minutes as part of the do now but it sets the tone for the kids. And they level off the discipline also if one kid screws up that kid gets it and so does the other kid. And we support that.

**Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.**

My faculty we are big on discussing and communicating; we talk and talk and talk. And even when it comes to discipline I'll give you an example when one of my kids comes in I know that I am going to have to do whatever it is that I have to do a we will talk about it in and the kid will usually arrive at the appropriate disciplinary measure which is good that means that they are learning something. Same thing with the instruction, obviously there are certain standards and we have uphold because of the core curriculum content standards we of the state assessment we have the NJASK. But even within all of that the teachers make the opportunity to talk with the kids. This is what we have to learn I'm sorry this is what we need to do to go through everything will ask for the kids input the kids will still complain. And usually the kids who come up with some pretty good suggestions especially when you incorporate LEADS in
the literacy block the kids have the opportunity to choose the kind of projects that they want to do. I mean obviously the teacher still facilitate in the process to make sure that they don't go off-topic and that happens in the older grades. I'd like to see more of it but since we just did this restructuring about two years ago this faculty is just coming to the point where my other teachers were because they've had the benefit of this for a few years now and it has benefited me a little bit longer. So now they're coming around a little bit more and some of the teachers that did not have the experience its not just facilitating leads but its a whole mindset they finally are starting to come along. It is our responsibility to channel their energy better. So you have to be on your toes constantly because they are from moment to moment the moods are changing the energy levels change you got I know your audience you can get a lot more out of middle school kids. The teaming promotes opportunities for teachers and students to have time to discuss issues relevant to their learning. It also gives the teachers the opportunity for the teachers to get the parents involved. There is more interaction between the teachers and the parents between the teachers and the students and of course between myself and the faculty and parents.
Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

Okay, in addition to what I mentioned before about looking at the assessments and planning instruction, one of the things that is so terrific about my staff is that they really do sit and talk with the kids. In addition to the data and everything else you use to plan instruction you really need to talk with the kids because the data may say one thing but there is nothing like sitting down or asking a kid and asking where are you with this especially with the leveled reading you know when you sit down okay and you get the data back maybe the kid is in eighth grade reading at a fifth grade level for example so you give the kid some books at that level and you realize that the kid is test phobic. The kid has a better reading level than that. Those are the kinds of things I think that makes a difference in instruction when you sit and talk with your child. You have to talk with them. There are some many kids that are test phobic. There is a specific dynamic I feel in minority students from low-income communities that I should mention because I think you should understand I know my kids really, really well. And because to a large extent of the family background and they are
feeling in sort of a linguistic isolation within the dynamics of education a lot of their talents are untapped. And that's why anyone working in a low-income community especially in middle school has to remember that in that we really, really need to look our kid's talents. And remember that they have been deprived of a lot of stuff and they are coming in with a lot of baggage that's why I keep going back to LEADS but I can't help it. I think it's just a marvelous program because it does encompass so much and it addresses every single child at every different level because of the nature of the activities that are planned within that unit. It goes from one end to the other and tactile, it's visual, it's a special. There is flexible grouping; there are tiered homework assignments different types of assessments, student work, portfolio assessments we have journals that we look at in math, for example, we math journals we have writing journals all of this is part of the assessment. They have a lot of different pieces in that and that's also how we drive instruction.

Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.
The supervisors collaboratively put together with the teachers the nine week benchmark assessments the more standardized type of testing to have a better idea as a group where the kids are but in terms of classroom instruction. Here what we really trying to do is we have had a little more experience I think with the teaming and the pairing. The teachers work together in their teams, some of them to give their own individualized tests, but they also work as a team to collaborate with the classroom tests that they give. Then make sure that the rubrics are aligned to the core standards. It is making sure that each teacher in the content area is keeping up with our pacing guide which is something else I need to talk you about. We have some great pacing guides that also talk about activities and talk about things that teachers can do in class. We're example here is a writing that is interdisciplinary and works across three content areas. There are morning and after school programs designed the same way. We have kids learning how to cook. In language arts, the pacing guides include activities that engage student learning. So it's no just one thing that they do. It's more like a Chinese menu. Everyday is a new day.
Question 3.3 What experiences are used to engage students in their learning?

There are centers of every element in literacy and by the way we have not talked a lot about math but I do need to talk about math as well. A few years ago we adopted Math for Understanding and I have to tell you our math scores leaps and bounds it really makes the math come alive. And one of the things that our supervisor did in her math pacing guide in addition to the leveled activities to help the teachers plan the instructional and she also scaffolded all of the materials in the textbooks so the teachers basically are not going from chapter one to chapter two to chapter three; everything is intertwined so that throughout the whole year the kids are getting the concepts and at first the teachers said this doesn't make sense but it does. At the end of the year math especially has to build you know its building blocks.

Question 4.1 Describe the methods used by teachers to assess student progress.

We have a couple of different things that we do as groups and we just adopted Lernia for some of our grade levels. There's is something that some districts are piloting and we were one of the districts who were fortunate enough to pilot it
from the state. It's a computer software program, it looks pretty good, it will better be able to help us diagnose our student's issues, another program that we got the language arts is called folio. It is just incredible. We just got it this year. It levels everything. It is a very nice assessment tool. It not only examines the elements of writing but also sentence structure. I am really excited to see how this is going to help us. Then of course there are the assessments that we do in the classroom some tests and some quizzes. But we are moving away from that truthfully. We're doing more what is in line with LEADS. The kids are working on projects that have writing in them mathematics in them. It is a lot more student-centered.

**Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?**

One of the great things about the kinds of assessments that we use is that we really use the data you know it doesn't just sit on the shelf. And that is due in part to all of the support people, supervisors, reading specialists, math specialists. We take a look at the data and say okay the kids are doing well in this particular element in their bombing this one. Let's go back to the curriculum; did we embrace enough of what we need to be in line with the standards or are we missing something?
Maybe we need to strengthen this piece in the curriculum in this particular aspect? One of the great things about curriculum that people keep forgetting it is a living document. It's not something that once you're done you throw it on the shelf and it's over with. And that's one of the things I think we're moving toward in this district that we are seeing the curriculum as a living document and we have to look at them frequently to see what we can do better and with all of these great assessments that we have now I think that's just going to make it even better. You have to give staff a lot of support, you have got to give them a lot of professional development.

Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?

The supervisors are very attuned to what the teachers need. The content supervisors meet with everybody at least once a month for professional development. The supervisors plan collaboratively and they use the two meetings a month to address student interests, student learning styles, it is all about conversation. The truth is I know who is teaching as I walk around the building. No one will be productive if they fell fearful. The teachers are going to do, when the door is closed, whatever they think is best. Every single faculty member who
has worked here I have had conversations with over the
instruction and what's in the best interest of the kids. So
through conversations with the supervisors, literacy coaches,
language arts specialists, and math specialists, we try to use
our assessment data to find the gaps in our curriculum to
improve what we do. And we try to encourage teachers through
professional development to seek ways of engaging students in
the instructional process.

Question 5.1 How do teachers incorporate available
resources within the classroom to meet curricular objectives?

Our social studies teacher has brought the technology
program to life. We have incorporated PDAs and we have a whole
tech team where all the kids have PDAs and opened up world
giving the first assessment online, and that is where all of
these resources come to life, and its making the world open for
her kids and he has done faculty meetings where he demonstrates
the use of technology for other teachers. It is about
empowering teachers to seek other resources to bring into the
classroom and technology and the use of the Internet make those
resources available. He has the kids carrying the entire
curriculum on removable devices and they carry it everywhere
they go. Little by little.
Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

I have really talked a lot about what we do here to differentiate the learning for our kids. We have worked hard to establish lines of communication among the faculty and the students. Our structure through teams and LEADS and our types of assessments that we use to guide instruction all help to create a place where we can all work towards the same goal. Having everybody on the same page helps us tremendously. We all strongly believe in the same principles and work together to make this the best place it can be.

Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives in middle schools?

If you are not differentiating your structure you are not teaching. We are not making a lifelong learner out of anybody, all you are doing is regurgitating material, that's it. You're not paying attention to what your kids need. You're not paying attention to what they need for the future. You're not paying attention to where they are now. You're not paying attention to anything you're regurgitating.

Middle School Principal # 7
Question 1.1 How long have you been a middle school principal?

This is my eighth year.

Question 1.2 How many years have you worked in the field of education?

Twenty years.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?

Yes, very much so.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?

In our building, is that which are looking for? This is a rural area and it was a building when I came here, it was set in its ways and had delved into cooperative learning and teaming and it was a pretty nice building. It's basically a closed-door building. So you do your thing, you know nobody really left, there was good principal and it met the needs of the times for rural community in the 70s and 80s. The last six years we've had a major push in my principalship towards reform. It started with the Turning Points literature - that book is read by every single staff member in the building. We have a daily develop professional development period. We redid our mission and our vision towards meeting the needs of every learner. So we are
really trying to establish a collaborative environment that thrives in excellence in education. This is a building where the sky is the limit if you are go-getter you can do anything. We have all the resources to get you to do anything. If you think it can I come to you then this may not be the right place for you. We are fully embedded in teaming. We have teachers observing peers in a non-threatening way. We have them planning differentiate units of study and lessons. We are forming an assessment committee now; we are currently reading Rick Wormli's book *Fair is not Always Equal* and Robert Marzano's book on *Grading and Assessment*.

**Question 2.2 How do teachers create a climate where all students feel included?**

The team concept is the core of our school. All our teams have their own names, mission statements, belief statements, and core values. We have team leaders, it's a culture of sharing, it's a the culture of re-establishing our beliefs. We always go back to meeting the individual needs of the kid. What has become more evident over the years I think it's irresponsible when you don't try to meet the needs of the individual learner. And making that paradigm shift from teacher as giver of information to the teacher as facilitator, coach, showing kids how to learn I think has a big play in getting people to
understand what differentiation is and their responsibilities, or shifting their perceived responsibilities of the way a teacher is perceived or the way they grew up or the way they learned mastery versus non-mastery, and so we engage in a lot of dialogue. And all of our faculty meetings, a lot of them are dedicated to differentiated instruction, or best practices, sharing the practices in our building. This year we applied to the Schools-to-Watch program which is based off of Turning Points, actually the authors of these books were in on the creation of the Schools-to-Watch program and I attended a leadership conference with the creators of the Schools-to-Watch program this summer. It is all tying together. The best thing I can say that has happened is that this is no longer my vision is based on sound pedagogy. I am just current with my pedagogy and what's being written on middle school practices.

Question 2.3 Describe how students are involved in creating a climate conducive to all learning well.

The latest push which is where we are really looking at the neat thing about differentiation is that it does take time you get the "ah-ha" moments and you need to work yourself through it. You can't begin in information and just say okay I'm going to differentiate tomorrow. It really has got to make sense to you. It happened to me when I was working with Carol Tomlinson
in Florida. I went to a four-day workshop and there was a three-day Institute and she was talking about the affect in the affect is easy for me I've always been with middle school kids it's a no-brainer. And I said why is she talking about this? It is the basis of differentiation is connecting and making individual connections with kids and kids with teachers and having that presence of why we are doing things. So it is crucial for the students to establish relationships with teachers with each other to take responsibility for learning for viewing learning as a means to a better place in their lives. We do a lot of project-based learning, a lot of hands-on learning, a lot of cooperative learning, and again the identity of the team goes beyond just the name. It transcends and gives them core beliefs. And when those beliefs are communicated back and forth then student becomes responsible for their own learning. The new literature that we are looking at on Marzano, I would like to move our building towards students graphing and keeping track of their learning progress as opposed to averaging and looking at grades the way we usually do. We are trying to take a behavior in all of the external pieces out of the grading system. And we are trying to measure just learning. I would say that a portfolio is a good way to measure learning as well. Assessment is probably the most boring part of differentiation
but it is such a key part of it because it drives instruction effectively and without formative ongoing assessment it is really virtually impossible to differentiate effectively.

Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

The school every child is given a learning inventory in the beginning of the school year. It comes from two venues. And even though literature has gotten so good part of it comes from the Turning Points literature there is a multiple intelligence interview that we get to every child in the building on the first day of school. We also do a 4MAT inventory on every child in the building and we put it on spreadsheets and we share it so that the teachers know where the kids strengths lie in learning and weaknesses and where they're comfortable and where their preferences are.

Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.

One of the things that we have looked at for the last couple years has been 4MAT. 4MAT talks about the different quadrants in the brain and the different learning styles and it
gives students access to learning in different modes even though their primary learning style might be focused in one way it then exposes them to other modalities of learning. Like I said we try to really the core of our learning is hands-on and inquiry-based and it’s moving towards kids doing rather than teachers giving. So there is a lot of project-based learning and a lot of inquiry-based learning. We just adopted the Connected Math II program in mathematics which is right on and at piece. Each subject area and brings it’s own different ways to learn.

Question 3.3 What experiences are used to engage students in their learning?

We try to use a lot of authentic assessment. We have different units of study whether its multiculturalism or we have used a lot of the Understanding by Design theory from Wiggins and McTighe to deal with essential questions and having different major meaning come to life in our units of study. Each team is responsible for one comprehensive unit of study which talks to their core belief, for example, we've had units of study that deal with transformations, changes, choices, multiculturalism and from that it then breaks down into the teams and then the teams try to realign the curriculum to that core study. The unit of study is usually about two weeks. It is comprehensive with the entire team. Each subject then ties
different concepts of choice or tolerance into their subject field so there is a connected meeting in the growth becomes exponential and not singular in each subject area.

Question 4.1 Describe the methods used by teachers to assess student progress.

I began to talk to you a little bit about where we are moving in assessment. All of our teachers are given a daily professional development program and it is differentiated by nature for them. They have a choice of looking at different paths whether it's creating a unit of study or looking in assessment this year or if there is a new group we address first year teachers and second-year teachers. Our second year teachers this year, we had a lot of new teachers last year, are looking at differentiated instructional strategies to keep the new people to the building abreast of our continuous movement to reform. Anybody that has been here longer than two years has a choice to create a comprehensive unit of study or to look at assessment. And we have started to get a lot of really good dialogue in the building about assessment from the two books our literature that we are looking at so we are moving away from your average traditional test of giving quizzes, giving tests without feedback. So we try to make the formative assessment continuous, ongoing, daily without as much today you are going
to have your quiz it's more of a check list, individual, where are you. We want move towards kids being responsible for measuring their learning where their strengths are where their weaknesses are and then when the kids take ownership for their learning and their assessments, we can gear the instruction towards a better.

**Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?**

I think the curriculum based on the movement that I've been part of is pretty good now. I guess the re-worked standards coming out from the state working with Wiggins and the consultants that just came out a couple weeks ago. And I knew about this about two years ago when I went out to a conference and I heard from Wiggins, McTighe and Tomlinson. So they talked about them contracting in New Jersey and redoing the standards. The standards are I think now right in line with differentiated instruction what we want kids to know, understand and be able to do and so I think curriculum is getting actually easier for us because it's not so much about us writing and making up curriculum it's also about standards-based which is really good, it's all about meeting and exceeding standards. Some of the misperceptions of criterion-based versus norm-based standards and everything in education is really out of whack.
Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?

Our team planning meetings all of our teams meet five days a week at the same time. We encourage dialogue at our faculty meetings which we have three a month no matter what, and I hold to it almost every month. One of the neat things about my job where I am at here is that I am incredibly under managed. So it's given me the ability to put in any practice as long as it doesn't become an issue politically which is great. I would rather have it no other way. I don't know if I could work in a micromanaged organization. There are goods and bads to that but because I'm allowed to do that the sky has been a limit in facilitating time and giving people what they need. We have provided extensive professional development in the areas of middle school concepts and differentiated instruction. I have the ability to put in structures to allow people to collaborate and have time to do things.

Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?

We created an incredible professional development library here. I of every paper written and resource from ASCD it is out for public use by the teachers. We have reading in the
classroom, writing across the curriculum in the classroom, all the different tapes on differentiated instruction. Any teacher can walk into our professional development library take a tape on learning contracts, web quests, multiple intelligences and view it. Every book written basically that's current is in our professional development library. We created a professional development period in 2001 and playing and exploring and we back-ended it we ended up putting in a world language program and we had to take five minutes from each class period. So we had an extra period for the teachers. So we ended up creating a professional development library. And, I can't believe how right on we are after looking at Turning Points six years later.

Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

We are very in tune with I think pre-adolescent culture, what kids do and what their involved with what they're likes are, we try to make my general music class and the dialogue that I have had with her where we were talking about looking at pieces of music and I said why not let the kids pick the music. So we try to give the kid a venue for pick what is meaningful in their life, what's valuable in their life. I have told the staff I've suggested nothing short of I want to see the
standards conveyed to the kids why they're learning and what they're learning. It is not good enough for us to look at, we look at it but why do we tell the kids what they should be learning. Whether it happens every class every period I don't know; we try.

Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives in middle school students?

If done across-the-board correctly there is no doubt in my mind that you would see significant growth in standardized test scores and overall intelligence. We try to do as little traditional assessment as possible because the belief is that if you're comfortable in all of these other modalities of learning then traditional assessment is just another way; there is no need to memorize and you will have the skills to handle standardized traditional types of tests later on because you're being taught how are learn conceptual as opposed to just memorizing and higher order thinking and problem-solving. If the will of the staff is not behind the reform or change it is not going to happen and that is one of the critical components of what I do here.

Middle School Principal # 8
Question 1.1 How long have you been a middle school principal?
I have been middle school principal for fifteen years.

Question 1.2 How many years have you worked in the field of education?
This is my thirty-fifth year.

Question 1.3 Are you familiar with specific strategies that differentiate the learning environment?
Not as perhaps as I should be.

Question 2.1 How do teachers plan learning experiences just beyond the level of each student?
What happens is with our new superintendent, I will give you a little background, we now block in language arts and math and now what are you going to do for eighty-two minutes. So in order to do that since we have students of all abilities they'll do group work where they will get their guided practice and everything like that. And I've seen for instance I was in one this morning where the cooperative groups have all of the abilities and you'll see that as they teach one another, also after the teacher has gone over the material, that they're able to comprehend as they explain it to one another that is sort of like a bonus to me, that I've never really observed to a great degree before. So it is really through block to we have
blossomed this year in math and language arts. The teachers will always have a component of cooperative learning during that block. Tessellations and transitions was another example on Wednesday where you had our eighth grade math had them in groups and I will go around to the groups and listen to what they are saying and you know the students who are less than cooperative but they are a different animal when they are in the classrooms. They actually explain things to one another and help with when they have to go through like this group will have to do questions 1, 3, and 5 and this other group has to do 2, 4 and 6 and then in the group one person is responsible for this part of it that part of it and then together they explain it to one another. And not so much that the teacher has to break it down for them to understand, but the teacher will have explained it, will go through sampling to see if I understand it and from that they're going to their groups and then they will apply the information through Bloom's taxonomy bringing them to through application into analysis to see you know does this thing really work, come up with other examples of other things that are around you with the same design or shape and things like that. And what is unique too is the closure. With closure, students will do at their own ability level. They will write their own explanation. I will give you another example okay from a math
class, what's the similarity between transition and a
tessellation? This is a way to get the kids engaged in the
learning and perhaps let them bring their unique perspective to
the learning.

Question 2.2 How do teachers create a climate where all
students feel included?

Well, we do a number of things. We have created a
situation in the classrooms that gets kids involved with the
lesson. Our lesson design specifically calls for students
participating at a level I have not seen before. We encourage
kids to take part in the learning by understanding that they are
not all the same, they might not all arrive at the answer the
same way, but to recognize those differences makes kids feel
welcome and a part of the learning. Questioning techniques in
particular have helped our teachers engage the students by
ensuring that each student is a contributing member of the
conversation. The climate they create by designing lessons that
include a do-now, an engagement activity, and closure. The
teachers will have them understand what is expected on a daily
basis so that it becomes engrained.

Question 2.3 Describe how students are involved in creating
a climate conducive to all learning well.
I think that teachers will try to direct them. One of the comments that we have on the evaluation form like is with questioning techniques. They are not able to carry out like at the high school level. The teacher still has to be like the moderator of the question. I think the teacher has to take more direct responsibility and here's another reason. And here's another reason I think the students aren't use to this yet. It's only been ninety-eight days, not that I'm counting, but they had this where you know they expect that every class that they going into they will have a do-now. They expect every class to have a closure to finish their learning to understand what the objective is. So in their own mind they are not used to carrying on conversations. I've seen special ed classes doing work in algebra where we've gotten a number of them out into the mainstream, which is what you want to have happen. And you're just so proud it's not like the crutch anymore where you have to stay in special ed. You have always wanted them out. But now that they see there is a good tie into that.

Question 3.1 Describe how teachers address individual learning styles, thinking styles, and multiple intelligences present in the classroom.

I think within the anticipatory set. I have seen teachers come up with two or three, for instance, we have one student who
was last year in sixth grade uncooperative. We did our best. He did succeed. He did pass up to the seventh grade. We found out that he has a great interest in skateboarding. So whenever, for instance, we could bring in skateboarding into one of the anticipatory sets you've got him hooked. As soon as you got him hooked you got five others that are easily hooked why because the one problem is so it's okay. Then what you're doing with them in the group work is he's not with the other five guys. He is with others. So he can get a slice of the mechanics of skateboarding okay with perhaps going fishing and things of that nature. The teachers will try to go into more of their general interests to get them hooked. Now let's say if there is an interruption in the class the teachers will do another anticipatory set to bring them back. They would repeat it or say how can we improve upon what was just said.

**Question 3.2 Describe the differentiated instructional strategies that teachers use to address the variety of styles and intelligences present in the classroom.**

I can not specifically by name strategies but we are trying to engage students in the learning. We are trying to model lesson design with our teachers. We are looking for new ways to address the different interests that kids have. We are hoping to create a place where kids feel welcome and come ready to
learn. We show respect for one another. We are using cooperative learning groups where the students are grouped in different ways. One day it might by ability and on another day if might be by interest, as in the case of the student we talked about earlier.

**Question 3.3 What experiences are used to engage students in their learning?**

Well, first of all, I would believe that it is something that they can all achieve. In a middle school or in any school that no matter what answer they come up with it's going to be respected if it's a proper answer, if it's a wrong answer we will try to dissect it to see what and how we went astray. We will look for a sampling of answers to a particular question. For instance, if I'm talking to students I would not stop and say when I get a correct answer. I will then ask some others to see if I get a correct answer or if I don't give a correct answer then we will see how we can all learn from the answers that we got. So the fact that the students know we respect if you're going to get an answer and you really believe that it is a correct answer and it's wrong we will do our best to break it down to see where we went wrong type of thing. I guess respect is a big thing and there is nothing wrong with trying. Failure is when you don't.
Question 4.1 Describe the methods used by teachers to assess student progress.

Teachers assess when they're checking for understanding. As they sample the responses, to see what level of their understanding. For instance, in one class, she got up to analysis but she wanted them to them her more about where the story is going to go. I want you to hypothesize. There are four minutes remaining to the period. The teacher where do you think this is going to go. We are now in our closure activity. What do you think is going to happen next? It's almost as if you're going on the fishing expedition. And the teacher will create a different closure exercise for each activity within the lesson.

Question 4.2 How do assessment strategies affect the curriculum and curriculum renewal?

I think I know that we just went through the whole thing with math and language arts and we will also be working with science and social studies. Because we went to the block that was one of the big areas where the supervisors moved our staff, in fact, you want it to be as interesting as possible and as relevant as possible. The assessments would be that you want all students to achieve. If for instance you can explain it one way but it's the correct answer and I can explain it another way
that's fine if we can work together as a group project with our strengths that's important also. So what they will try to do as far as assessments are concerned not only to have specific tests and quizzes things of that nature homework and even the homework is funny too, because you have to have your homework complete. Because on the NJASK, you really can't leave blanks. So with their homework if they don't know the answer take your best educated guess at what the answer is. I think that there is more happening here than ever before. As a result of progressive assessment, such as questioning for understanding, there is more going on in the classroom.

**Question 4.3 How do teachers facilitate ongoing feedback to increase student opportunities to grow and improve their learning?**

The teachers take the time to talk to the kids. The ask them to get involved with the lesson and involve them in the decision making process. I think that kids are motivated if they know that their opinion is heard. The teacher may not ultimately decide to appease the student, but I think just the fact that the teachers are willing to listen is enough in itself. Especially when there are going to be those occasions where the teacher will be sensitive to student input and
ultimately include their suggestions, whether it is about the lesson itself or the product that they have to produce.

Question 5.1 How do teachers incorporate available resources within the classroom to meet curricular objectives?

Skills tutors is something that the district is how do two years now, where students get assignments in it too, just to keep their heart beat going. You can access that 24 hours a day and seven days a week. Teachers have the science program online so you can access it also online. There are other materials that teachers post on a website that kids can access anytime. She puts lesson plans, assignments, project due dates, and review worksheet right up on her webpage. The library has a variety of resources as well that students have access to. We have a computer lab that the teachers will take the kids and a computer teacher who assists them. The lab is used ever period of the day.

Question 5.2 Describe any differentiated instructional strategies teachers use to address student interests and abilities in the classroom.

Well, basically we have worked at designing lesson plans where the teacher engages the kids using a variety of questioning techniques and structuring the lesson using the Hunter design. In addition to that we have worked the master
schedule to compliment the new lesson design. We have given the teachers the time that they need in order to really engage the kids with meaningful activities that help to get to those higher order thinking skills of Bloom's Taxonomy. So all in all it has been working well. The teachers enjoy having the time to create activities that challenge the kids and the kids are enjoying it because they are a part of the learning rather than just passive participants.

Question 5.3 From your perspective, how does differentiated instruction impact student achievement of high curricular objectives?

It was a lot of work that we put in over the past year. The supervisors were meeting with the staff and having their department meetings and we are one of the lowest paying districts. The teachers have really accepted the challenge and because of that we have been successful implementing at least the new schedule and the new lesson design. So all in all yes I think it does impact student achievement because if you just look at those two pieces we have already seen teachers and kids more excited about coming to school. We have extended the day by having teacher and school resources available 24 hours a day and 7 days a week. Now we have not really as yet seen the
result in the way of our GEPA scores but I do believe that that will come.