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Perceptions of gifted education in middle school and the role of principal

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PERCEPTIONS OF GIFTED EDUCATION IN MIDDLE SCHOOL AND

THE ROLE OF PRINCIPAL

By

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Bachelor of Science
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1983

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1986

A dissertation submitted in partial fulfillment
of the requirements for the degree of

**Doctor of Education Degree in Educational Leadership
Department of Educational Leadership
College of Education**

**Graduate College
University of Nevada, Las Vegas
August 2008**

UMI Number: 3338519

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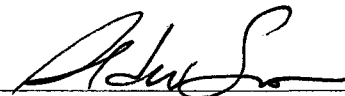
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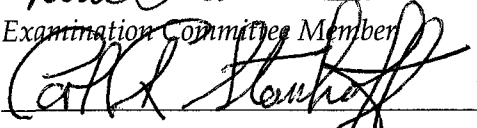Perceptions of Gifted Education in Middle School

and the Role of Principal

is approved in partial fulfillment of the requirements for the degree of

Doctor of Education in Educational Leadership

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ABSTRACT

**The Principal's Role in Supporting Instruction for Middle School
Students with High Ability**

by

James Louis Kuzma

Dr. Pamela Salazar, Examination Committee Chair
Assistant Professor of Educational Leadership
University of Nevada, Las Vegas

The purpose of this study is to determine the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. In addition, the study will examine principals' and teachers' perceptions of principal practices related to the improvement in the achievement of gifted students in middle school.

The study's design will utilize a mixed method using surveys and interviews. Quantitative methodology will be employed to gain and understanding of the perceptions of principals and teachers through the utilization of the survey. The study will also employ qualitative methodology by interviewing a group of principals and teachers. The population for this study will be all Nevada public middle school (grade 6-8) principals. These participants will be both men and women who are employed as principals in a Nevada public middle school. The population will consist of 129 principals. These middle schools are located in rural, suburban, and urban areas of the state.

The study supported the conclusion that, in general, principals are knowledgeable of research-based instructional practices relative to teaching students with high ability. However, teachers do not support the perception of principals that they are encouraging the use of these practices in the classrooms of their buildings. Furthermore, the findings of this study suggest discrepancies between principals' perceived knowledge about research-based instructional practices geared towards students with high ability and their actual pedagogical knowledge.

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ACKNOWLEDGMENTS

I would like to take this opportunity to publicly share my appreciation to the many people who have helped me realize my dream of earning a doctorate in education administration. Without the constant support and urging of family, friends, colleagues, and mentors, this dissertation would have gone unwritten.

Mere words are not sufficient to express my gratitude to Pam Salazar, who as my major advisor never stopped believing in me. Her constant support and patience allowed me to complete this work. Thank you for being a wonderful role model as a researcher, but most importantly, as a person.

I need to recognize Patti Chance, Carl Steinhoff, and Pam Campbell for their many contributions to my experiences at UNLV. I am extremely grateful for their willingness to serve on my committee, thoughtful edits, and insights. Your words of encouragement provided me with the push I need to work complete my task. The concern and openness you offered during my study was greatly appreciated.

My final words of gratitude are reserved for my wife, Miriam Kuzma. Throughout our years of marriage, you have been supportive with every endeavor I undertake, and you have always encouraged me to pursue my interests. Your continued support and belief that I could complete my doctoral degree went beyond the call of duty. You have been with me throughout the whole process from the writing of the proposal to the editing of the dissertation. I know that I would not have finished my dissertation without your support, words of encouragement, and patience.

CHAPTER 1

INTRODUCTION

Background of the Study

With the advent of No Child Left Behind (NCLB, 2001), school leaders began to

sense the urgency to provide interventions for non-proficient students. The National

Middle School Association (NMSA) and the National Association for Gifted Children

(NAGC) issued a joint position statement and a call for action to meet the needs of high

ability and high potential learners between 10 and 15 years of age. They maintained that

schools must implement appropriate identification, assessment, and curriculum and

instruction programs for students with advanced abilities and/or advanced potential

(NAGC, 2004).

In scanning the literature of school leadership, the effect of NCLB (2001) has

placed a greater emphasis on changing the organizational structure of schools. "School

reform" has become a hot topic as educators have responded to report after report critical

of the American education system. Feldhusen (1989) asserts, "Public education in the

United States is undergoing its greatest review and re-conceptualization in history..." (p.

3) Experts have spoken: students need more time to learn. They need small schools with

dedicated staffs, high academic expectations, and a clear commitment from their families

and communities to their education (Alexander, 1995); they need high standards, they

need morals and ethics integrated into their lessons. The list goes on, critical issue after critical issue.

Throughout it all, in almost every aspect of the discussion, one reality stands clearly. Effective education requires effective leaders. "Effective" schools, schools in which students perceive themselves to be, and are actually safe; schools in which real learning happens in measurable ways, in which students and parents alike are pleased with students' progress, can be a reality in communities. But to do so, they must be led by persons who believe in the students, the curriculum, the teaching staff, and themselves (Lashaway, 1997).

The writers of article after article and the reporters of numerous studies speak to the role of the principal in the formation of a learning community, and in setting and enabling achievement of high educational goals (Hudgins & Cone, 1992; Valentine & Bowman, 1991). The principal is to be instructional leader, site manager, and community liaison (Keaster, 1995). Upon the shoulders of the principal falls the responsibility for assuring that education is occurring for all students.

Foremost among these students are those with special learning needs: those who, because of a myriad of reasons ranging from ability/achievement scores significantly different from the norm (i.e., two standard deviations or more) to physical/emotional/behavioral challenges, are singled out by legislation nationally or within their home state for extraordinary educational services in order that they may learn. This group is immensely diverse and its needs incredibly varied; yet the schools, and therefore the administrators, are required by law, if not by common decency, to

provide for an education for each of its members. It is, at best, a daunting task (Kliebard, 1995).

In the midst of this disparate array of students, typically distinguished by a marked inability to learn satisfactorily in a traditional fashion at a pace typical for chronological peers, exists one group of learners similarly exceptional, yet with a unique qualifier. Though capable of learning in a traditional fashion at a pace typical for chronological peers, these students cannot do so satisfactorily, because to do so would be to slow significantly their learning process. This group of learners learns far more rapidly than their peers, in a manner distinctly different from them. They are learners with high ability, students whose ability to learn has distinguished them from even the most capable of their average chronological peers (Renzulli & Reis, 1991).

Research has shown that the effects of elimination of gifted and talented educational programs are typically negative, both for the students with high ability as well as for the student's parents (Purcell, 1993). Additionally, students with high ability who experience lack of understanding and support, ambivalence, and/or hostility from peers and significant others often have problems with both self-concept and family relationships, as well as with psychological stress-related issues such as depression and suicidal ideation (Van Tassel-Baska, 1989). Yet programs for students with high ability are being terminated or cut back across the country, especially in areas of poor economic health (Renzulli & Reis, 1991) and these students are being ignored or offered only limited high-quality curricular alternatives (Feldhusen, 1989). For these students, the principal may be, in the final analysis, either the one who will determine how the needs of this most unique cadre of students will be met within the school, or the person who

will function as the students' advocate for appropriate placement in services outside of the school.

The joint position statement of the NMSA and NAGC also included a "call to action" to ensure equity and excellence for all learners, including those of advanced performance or potential. In their statement, they specifically urged middle school principals to take steps to create a school climate that vigorously supports both equity and excellence (NAGC, 2004).

This study determined the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. The premise of the study is based on the belief that middle school principals must be informed about differentiated instructional strategies that are used to teach students with high ability. Providing middle school principals with this information will assist them in understanding the special learning needs of this population of students. It will allow them to employ instructional methods at their schools that will provide challenges to a group that is often unchallenged.

Statement of the Problem

Because there appears to be little consensus among educators concerning the nature and the unique needs of students with high abilities (Feldhusen & Moon, 1992; Gagne, 1995; Sternberg, 1996; VanTassel-Baska, 1992), educational programs for students with high ability vary dramatically from place to place, not only from state to state across the country, and from district to district within each state, but often from school to school within each public school district, and among private schools (Renzulli,

1986). Yet research appears to support the assertion that students with high ability need differentiated education programming, especially in the areas of curricular design and instructional practices (Gross, 1992; Lovecky, 1994; Silverman, 1989; VanTassel-Baska, 1992) if they are to be challenged to perform at their highest levels of ability, and if they are to be engaged in the formal education process.

Due to the reality of the apparent ambivalence inherent in the American educational system; it appears that if students with high ability are to be offered an opportunity to avail themselves of appropriate educational options, those options may have to be originated, and regardless of point of origination must be nurtured and supported at the local building level (Tomlinson, 1996a). Accordingly, it would appear that the role of the principal in this effort is an important one, especially in terms of the amount and quality of educational leadership which he/she brings to the setting, and to the extent that he/she can be effective in the domain of instructional leadership (Sternberg, 1996).

Purpose of the Study

The purpose of this study was to determine the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. In addition, the researcher sought to examine and compare principals' and teachers' perceptions of principal practices related to meeting the academic needs of students with high ability in middle school.

Research Questions

The study was guided by and attempted to answer the following questions:

1.   To what extent do middle school principals perceive that they are

encouraging particular research-based instructional practices relevant to

teaching students with high ability in their buildings?

2.   To what extent do middle school teachers perceive that the principal of their

building is encouraging them to employ specific research-based

instructional practices to teach students with high ability in their

classrooms?

3.   How do the perceptions of middle school principals and teachers compare

regarding the extent to which principals are encouraging employment of

research-based instructional practices with middle school students with high

ability?

Conceptual Framework

Within the structure of *Integrated Curriculum Model for Gifted Learners*

(VanTassel-Baska, 1994), one finds three specific recommendations for curricular

differentiation for learners identified as gifted, all of which are consistently and

substantially supported by the work of others. The areas include delivery of instruction,

developing student thinking skills, and instructional planning. Within these three areas,

one can find the framework for planning appropriately differentiated learning experiences

and programs for high-ability/gifted learners.

In researching gifted education and middle schools, three different areas of conflict between educators in gifted education and the proponents of the middle school are identified. These areas are middle school philosophy, instructional strategies, and the elimination of ability grouping for students with high ability (Burton-Szabo, 1996). Advocates of gifted education are concerned with the middle school philosophy, which emphasizes social developmental needs of adolescents and the lack of emphasis on academic focus for students at this critical stage of development. Proponents of middle schools deem social development as most essential during this period. They claim adolescence is a time of change, and middle school students are in need of developing their own personalities and learning how to interact with peers. Chance (1998), Colangelo and Davis (1997), Maker and King (1996), and Tomlinson (1996b) argued that a curriculum that focuses on social development causes students with high ability to go unchallenged academically and leave them to fend for themselves. Supporters of gifted education believe that students with high ability should be presented with a challenging curriculum that allows them to maximize their gifts (Burton-Szabo).

Another concern that advocates of gifted education have regarding middle schools is that most students with high ability spend the majority of their school day in a regular middle school program. In addition to this situation, most middle school teachers are not certified in gifted education nor have they been given any training on how to differentiate instructional strategies for students with high ability (Coleman & Gallagher, 1992). Rosselli (1995) found that middle school teachers' applications of differentiation consisted of making minor modifications to a single lesson. He found that teachers did not plan initially for differentiation of students with high ability at the beginning of each

lesson. Adjustments were made after the lesson had been implemented. He also indicated that middle school teachers' differentiation included assigning more work for students with high ability. He is convinced that these types of situations present a problem for middle school teachers as well as students with high ability.

Tomlinson (1996) asserted that differentiation, as presently defined, is limited in its use in the actual lesson plan and operation in the classroom. A program is not differentiated when assignments are the same for all learners and modifications consist of changing the level of difficulty of questions or problems for gifted students. Tomlinson further stated that grading students with high ability more rigorously than the others, or allowing students who finish early to play games for enrichment is not differentiation. Differentiation is not having students with high ability do extra math problems, book reports, longer assignments, or asking them to do more of what they already know. In fact, she maintained that having them do the regular classroom work plus additional work might be interpreted as punitive actions rather than intellectual challenges for gifted students. She concluded that differentiation occurs when teachers utilize various instructional methods for students who are at different ability levels and who have distinct interests.

A third major concern educators of students with high ability have with middle schools is the elimination of ability grouping and special programs for those students. Renzulli (1991) stated that with heterogeneous grouping, students with high ability learn nothing new until after the first semester of the year. Studies have shown that students with high ability have mastered 35 to 50% of the curriculum offered in five basic subjects before they begin the school year (Purcell, 1993). In addition, most teachers make few, if

any, adjustments to curriculum for students with high ability. These students spend most of their class time working on previously mastered assignments (Archambault, Brown, Emmons, Hallmark, & Westberg, 1993).

The principal is seen as the educational leader in the school building (Kanpol & Weisz, 1990; Murphy, 1990; Niece, 1989; Notar, 1987; Warner & Stokes, 1987). With the advent of site-based management and school restructuring, attention has focused on two primary aspects of the principal ship. The first is the relationship between the principal's educational preparation and educational programming for populations with special needs, like students with high ability (Frase & Melton, 1992; Gallagher, 1991; Rudnitski, 1994; Treffinger, 1991). The second is the nature of the relationship between the principal's efficacy as an instructional leader and change agent, and the nature, quality and degree of educational change/improvement within his/her building (Anderson & Nicholson, 1987; Boyd & Hord, 1994).

Research Design and Methodology

The researcher utilized a mixed method using surveys and interviews to complete this descriptive study. Quantitative analysis was employed to gain an understanding of the perceptions of principals and teachers through the utilization of a survey. The researcher also employed qualitative analysis by interviewing a group of principals and teachers. Creswell (1994) suggested that by combining quantitative and qualitative methods several advantages result; complementary phenomena may emerge, one method informs the other, and mixed methods add scope and breadth to the study.

The population for this study was of all Nevada public middle school (grades 6-8) principals. These participants were both men and women who are employed as principals in a Nevada public middle school. The population consisted of 129 principals. These middle schools are located in rural, suburban, and urban areas of the state. Questionnaires were forwarded to each of these principals. Their responses to 29 questions focusing on the content knowledge and practices in regards to instructional strategies geared toward students with high ability were collected.

To study middle school principals' practices relevant to gifted education, the same principals were asked to select three teachers on their staffs to answer a series of questions. Prior to dissemination, questionnaires were examined by experts in the field of instructional supervision and gifted education for content validity and survey design. In addition to the surveys, interviews were used to provide two-way communication. The interviewer and the interviewees were able to share information in a more conversational tone and the respondents were given the opportunity to steer the conversation.

Definition of Terms

1. Acceleration: The method that allows students to encounter advanced work earlier than required in an educational setting (Gallagher & Gallagher, 1994, p. 13).

2. Adolescent: A young person who has completed elementary school and has not yet entered high school. The age of these children typically ranges from 10 to 14 (Clark & Clark, 1994, p. 28).

3. Creativity: The ability to make something new, novel, and useful. It may also be described as unique or original (Tomlinson, 1996, p. 207).

4. Curriculum Compacting: Students are required to complete only the assignments that they have not mastered (Renzulli, 1991, p. 28).

5. Delivery of Instruction: The use of instructional methodologies such as diagnostic, prescriptive teaching, which not only permit requisite compression and acceleration of learning, but which also encourage progressive growth and development, as well as providing high levels of challenge necessary for sustained engagement of gifted learners (VanTassel-Baska, 1994, p. 68).

6. Developmental needs: The variety of needs exhibited by adolescents. These include physical, educational, social, affective, and psychological (Wigfield, 1991, p. 557).

7. Differentiated instruction: "A method of instruction that provides various learning options that are designed to tap into different readiness levels, interests, and learning profiles. In a differentiated class, the teacher uses a variety of ways for students to explore curriculum content, a variety of sense-making activities or processes through which students can come to understand information and ideas, and a variety of options through which students can demonstrate or exhibit what they have learned (Tomlinson, 1995, p. 82)."

8. Enrichment: These instructional methods allow students to delve deeper in content. All enrichment activities for gifted students should be planned using higher-level thinking objectives as shown in Bloom's Taxonomy (Davis & Rimm, 1998, p. 76).

9. Gifted and Talented: "Children and youth with outstanding talent who perform or show the potential for performing at remarkably high levels of accomplishment

when compared with others of their age, experience, or environment (Kitano & Kirby, 1986, p. 17)."

10. Instructional Planning: The designing of curricular issues and themes aimed at addressing major concepts, themes, and ideas that have guided the development of civilization, and that apply not only within specific disciplines, but also across them (VanTassel-Baska, 1994, p. 70).

11. Middle Schools: The educational setting and manner of instruction adopted for teaching adolescents. A typical middle grade configuration is 6 through 8 (Clark & Clark, 1994, p. 9).

12. Novelty: Introducing into the curriculum unique ideas not normally found in standard programs, such as interdisciplinary impact of technology on the society (Gallagher & Gallagher, 1994, p. 62).

13. Research-Based Instructional Practice for Gifted Students: A practice of instruction geared towards students with high ability that is based on theory which has been researched and investigated (Renzulli & Reiss, 1991, p. 28)

14. Sophistication: Direct instruction in "complex networks of ideas", such as theories in the sciences or larger generalizations in the humanities (Gallagher & Gallagher, 1994, p. 78).

15. Thinking Skills: The ability to deal with complex concepts, to readily manipulate ideas, and to find, interact with and solve problems (Gallagher & Gallagher, 1994, p. 78).

Assumptions

1. Students with high ability are enrolled in the schools of the participants.

2. The survey/questionnaire generated reliable responses from participants in the study.

Limitations

1. This study was limited to the principals who responded to the survey, and it cannot be assumed that what one principal perceived can be applied to all principals.

2. Data were collected by a survey/questionnaire and was limited to responses reported by the participants rather than behaviors observed

3. Principals were asked to select three teachers from their staffs to answer the teacher questionnaire. The researcher was not be in control of that process, thus was not be completely certain of the way the principal chose the teacher participants.

Delimitations

1. The research was delimited to the middle school principals in the state of Nevada.

2. The researcher related implications from the data to the state of Nevada and did not attempt to draw relationships or conclusions to any other part of the country.

Significance of the Study

Students in middle school identified as gifted need to be challenged to maximize their talents during the middle school years. Principals must encourage teachers to use differentiated instructional strategies, which provide opportunities for students with high ability to excel (Davis & Rimm, 1998).

Davis and Rimm (1998) state that, "to ignore the needs of the gifted students places them at risk at becoming underachievers" (p. 9). Rimm (1987) proclaims, "Every gift contains a danger. Whatever gift we have we are compelled to express. And if the expression of that gift is blocked, distorted, or merely allowed to languish, then the gift turns against us, and we suffer" (p. 32). In order to understand the true meaning of giftedness, it is necessary that we separate the concept from achievement. High achievers are those who are motivated to do well in school. Students who are identified as gifted may be high achievers or they may be high school dropouts. They have learning needs that differ from other students, just as developmentally delayed students have different learning needs. When giftedness is seen as the mirror image of retardation, it becomes clear that we have a responsibility to meet their needs, whether or not they are high achievers (Silverman, 1993).

Schools have an enormous impact on the lives of students with high ability. One understanding teacher who took an interest in them has salvaged underachieving students. The investment of time and energy in differentiating the curriculum for students with high ability can inspire them to have higher aspirations, to win scholarships, to choose demanding careers, and to use their gifts for the betterment of society (Silverman, 1993).

Taking into account the current emphasis on high educational standards, state and national assessment of pupil performance, national curricular emphases, and the call for educational accountability; the researcher believes that this study can and may have a consequential impact upon approaches to the provision of high-quality programming for students identified as gifted and talented and upon the training of principals (Silverman, 1993).

Summary

Over the years, the curriculum experienced by students identified as gifted has not always challenged or accommodated them for their abilities. During most of the history of American education, gifted education struggled for survival as a legitimate component of the curriculum. A small number of students identified as gifted, however, were allowed to attend secondary school as recognition for their abilities. Further education was made available when families were financially able. As mandatory attendance laws became enacted, schooling became available for all; however, few opportunities for children with high ability were available (Davis & Rimm, 1998).

In addition, the effect of the middle school movement on middle school students with high ability has been a source of debate between advocates of gifted education and middle school proponents. Advocates of gifted education believe that the focus on social developmental needs of middle school students has caused the academic needs of learners with high ability to be overlooked. Proponents of gifted education have also alluded to the fact that most middle school students with high ability spend the majority of their school time in a middle school setting where many teachers are not certified in gifted

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education nor have they been given adequate training on how to differentiate curriculum for middle school students identified as gifted. Finally, advocates of gifted education are concerned with the elimination of ability grouping for middle school students with high ability.

Traditionally, gifted education has emphasized instructional strategies that challenge students to maximize their gifts. Advocates of gifted education argue that middle school teachers need to be provided with differentiated instructional strategies that are effective with students with high ability.

In this study, the researcher examined the extent to which middle school principals' are encouraging the use of research-based instructional strategies to teach middle school students with high ability in the state of Nevada. The purpose of this study was not to evaluate which instructional strategy is the best; neither was it to compare one with the other. The purpose of this research was not to determine which instructional strategies are most preferred by principals, but to review how middle school principals' are implementing research-based instructional strategies to teach middle school students identified as gifted in the state of Nevada.

CHAPTER 2

REVIEW OF LITERATURE

Rationale for the Study

The review of literature begins with an overview of middle school development and philosophy, including a discussion of studies, models, teaching strategies, curriculum, programs, and instructional needs of gifted students. Following this overview is an examination of the role of principals relevant to gifted programming.

Curricula, programs, and instructional needs were included in the review of literature because they provide information on the importance of differentiated teaching strategies for the middle school students with high ability. Based on the research questions for this study, it was imperative that the literature review draws attention to principals in their role as instructional leaders.

Middle School Development

In the late 1800's and early 1900's, education was predominantly formal and traditional (Lounsbury & Vars, 1978). There was little variation in classroom structure and instruction. The traditional elementary program, first to eighth grade structure, along with the high school structure, grade levels nine through twelve, existed as the acceptable forms of public education in America. This 8-4 grade level structure was eventually challenged, as educators were increasingly recognizing the

different developmental needs of the adolescents, ages 12 to14 (Bossing & Cramer, 1965).

School, and the work that it required to be successful, was a cumbersome duty in a child's life with little or no meaning. The average and below average student found that it was particularly difficult to be successful in school. Students saw little or no connection to the purpose of a textbook education and the relevance to the out-of-school experiences and interests (Lounsbury & Vars, 1978). Many individuals educated with as little as an eighth grade education were extremely successful in the workplace communities (Bossing & Cramer, 1965). The demands were high and the success rates were low. With emphasis on academic standards as a measure of knowledge in the late 1800's, students who were struggling because of individual differences were retained to succeed on their own. Those students became known as "left-backs" (Lounsbury & Vars). About one third of the school children of the early twentieth century were retained at some time during the few years they spent in school. About one out of every six children in any grade was a repeater in the grade (Lounsbury & Vars). There was a multitude of contributing factors that led to their failure in the school. These factors included late entrance, illness, home condition, low economic status that forced youngsters to work for family survival, and mental retardation (Lounsbury & Vars). Many of the factors contributed to the extreme heights of academic failure, but educators viewed that the educational institution did not seem to meet the needs of the troubling students.

Middle schools were created to address the needs of students in the middle grades. Between the one-room schoolhouse and the current concept known as the middle school

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philosophy was an evolution that sought to improve education. From its inception, the movement toward middle schools was a deliberate attempt to more adequately educate adolescents (Clark & Clark, 1994).

This reform movement was not unique to public education in the United States. A law in the United Kingdom required that secondary education begin at the age of 11. In 1964, after over a decade of comprehensive school reform, the law was changed to allow for the use of middle schools (Clark & Clark, 1994). To understand the current position of the middle school reform movement, it is helpful to first outline its origins and evolution.

By the end of the nineteenth century, most school systems in the United States were arranged with an elementary school followed by a four-year high school. There seemed to be little historical precedent or research to justify this configuration, yet it was favored throughout the nation (Gruhn & Douglass, 1956).

The initial reason for scrutinizing the grade configurations in public schools was the effect these arrangements were having on college admissions. Charles Elliot, the president of Harvard, made a presentation at the National Education Association's annual meeting in 1888 that spawned multiple committees to study the problems facing secondary school and universities (Gruhn & Douglass, 1956). Applicants to universities had a wide range of preparedness and included a variety of ages; so, the configuration of grades in public schools was identified as a source of these problems. As such, suggestions to change the grade configurations were frequently offered as solutions.

By 1908, many of the committees examining grade configurations settled on a six-year elementary program followed by a six-year secondary program (Gruhn &

Douglass, 1956). The six-six plan shortened the length of elementary schooling and began introducing secondary instruction sooner. These changes were made to prepare students to enter college at a younger age. Having students able to enter college at a younger age encouraged more students to apply to college instead of moving directly into the workforce, and the more uniform preparation allowed colleges to have more clear and reasonable expectations of freshman students.

Just because several committees supported the six-six plan, it was not widely implemented, partially because many systems were too rooted in the traditional four-year high school. The continued interest in unifying grade configurations, coupled with the interest beginning in secondary instruction sooner, led to a new suggestion for grade configuration. The idea was to break the six years of secondary instruction into two three-year programs. The first three-year program acted as the transition from the ways of elementary school to the separate subjects and ways of a three-year high school. Known as the junior high, the three-year transition from elementary school to high school was widely adopted by the middle 1920's (Gruhn & Douglass, 1956).

The junior high school was theoretically designed to provide young adolescents the necessary skills to make the transitional bridge from elementary school to high school a successful educational process (Alexander, 1995). "The junior high school needs to be a separate institution because adolescents require a kind of educational program and environment different from that of either the elementary of high school" (p. 23). The formation of a new educational institution had to fulfill the gap that existed in education. The idea of providing a transitional bridge between elementary and high school seemed to be the logical solution to the education problems (Alexander, 1995).

Although the grade configuration became more unified with the inclusion of a junior high, the role it played in educating students was not agreed upon. Several forces influenced the expectations for the junior high. Staffing in the junior high brought about some of its direction. Many staff members had been trained to teach high school, so they typically taught junior high in the same manner. The local population also had an effect on the role of the junior high. In some more rural areas, very few students went to high school, and those who did may have needed to travel to the next county to get to a high school. In such areas, the junior high replaced the high school as the final education for most students (Alexander, 1995).

Even as the junior high became an accepted component of American education, its purpose continued to be influenced and altered. In 1904, G. Stanley Hall released *Adolescence* and ushered in the force that would, years later, forge junior high schools into the middle school philosophy. Hall's work started an era in American education that focused on the needs of the child (Alexander, 1995). The child-study movement utilized scientific techniques to determine what should be taught, but more significantly the movement started the trend of attempting to measure everything tied to education (Kliebard, 1995). The scientific studies of children made the child an important factor in school reforms.

By the 1950's, it became clear that the junior high concept was not meeting the needs of young adolescents, and the current middle school movement began. The junior high was failing its primary task of appropriately transitioning students from elementary to high school because it failed to address the many varied needs of the in-between students (Clark & Clark, 1994).

One indicator of the junior high model's inability to meet the needs of its students was the number of students who failed a grade or dropped out of school in the seventh or eighth grade (Hechinger, 1993). To some extent, this failure of the junior high acted to sort students into college preparatory or vocational tracks. In an era when many factory and trade-skill jobs were available, the preparation of students for such jobs and the students' early dropout from school were socially acceptable. However, the changing labor market accentuated the problem of having students leaving school early and unprepared, leading to the need for reform of the middle level (Hechinger).

A primary rationale for the middle school was to create an environment that is capable of responding to the developmental needs of students. Physical maturation is an obvious example of the variation in development among middle level students, but their readiness to learn can be equally diverse and harder to recognize (Alexander, 1995). Students need instruction appropriate for their level of readiness in order for learning to be maximized. The junior high model, which focused more on academic content, only acknowledged such differences by creating different levels, or tracks, of instruction. Such tracking systems have been found to perpetuate differences and to sort students in inappropriate ways.

The effort to change junior high schools into more child-centered institutions is often called the middle school reform movement (Alexander, 1995). It is argued that the middle school movement is not just seeking to improve the traditional practices of the junior high, but instead it is trying to alter its traditional focus and core practices. Due to the substantive nature of these changes, the middle school movement is considered an attempt at reform and transformation (Polite, 1995).

A sign that the middle school reform is more than a fad is its already long-standing effort, and the long-term support it has received (Polite, 1995). Continued support is growing, as multiple foundations and state departments of education have issued documents and dollars in support of middle school reform (Lounsbury, 1991).

Needs of Adolescent Children

Before examining the specific changes promoted by the middle school reform movement, it is worthwhile to explore the qualities of adolescents that necessitated the changes. The middle school years are recognized as the last chance for experiencing positive development and for avoiding problematic or self-destructive behaviors (DeVita, Pumerantz, & Wilklow, 1970).

As the middle school concept developed, a great deal of concern about individual differences became a driving motivator. "The middle school youngster is unique in his development pattern. He is desperately searching for truth of self and seeking recognition as individual" (DeVita, et al., 1970, p. 62). This new direction looked very closely to the psychological patterns of individuals of this age. In conjunction with middle school development, new studies were being conducted on the psychological development of these students, known as transescents." The stage through which a transescent develops is referred to as "transescence" (Eichorn, 1966).

Transescence is the stage of development that begins prior to the onset of puberty and extends through the early stages of adolescence. Since puberty does not occur for all precisely at the same chronological age in human development, the transescent designation is based on the many physical, social, emotional, and intellectual changes in

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body chemistry that appear prior to the puberty cycle to the time in which the body gains a practical degree of stabilization over these complex pubescent changes (Eichorn, 1966).

Clearly, Eichorn (1966) recognized the difference in each individual and understood the concept of the middle school. By recognizing the needs of the individuals, acknowledging that they develop at different rates, and experiencing changes socially, physically, emotionally, and intellectually, Eichorn was able to classify students from fifth through eighth grade into a developmental category and a common institution that could provide for their needs. Eichorn, along with others, identified changes in physical attributes that affect the developmental process of the transescent. In his findings, Eichorn stated that the adolescents of the early 1900s were further behind in their advancement towards adulthood than those of the time (Eichorn).

Adolescents require schools to place as much emphasis on social development as academic preparation. Hechinger (1993) identified that a student's sense of connectedness with peers and the school community was a more reliable predictor of student health than attendance rates, dropout rates, class size, or whether the school was a public or private. As such, the social connections within the school protected students from health risks like depression, substance abuse, violence, and sexual intercourse. Schools have a direct influence on the assets students need to develop and maintain such social connections. Only 20% of adolescents report feeling valued by their community, and only one-third feel that they have sufficient adult role models and caring neighbors. The lack of adult support, coupled with the increased need for peer approval suggests schools must maintain a focus on the developmental social needs of adolescent students (Hechinger).

Adolescents require support for dealing with moral, physical, and emotional development as well. It is reported that 20 to 30% of adolescents experience school failure, drug use, or teen pregnancy. Further it is estimated that most adolescents engage in some form of illegal activity. In addition, boredom and low self-esteem are considered the major contributors to adolescent experimentation with risky behaviors. Providing ample personal, challenging, and engaging activities provides the productive peer experiences necessary to address these major contributors. Middle schools have the resources needed to provide consistent expectations and meaningful opportunities; therefore, it is essential that schools provide support so that the experimentation with risky behaviors does not develop into consistent patterns of behavior (Hechinger, 1993).

At the elementary level, students spend most of their school day in a single classroom. In the middle grades, students frequently move among many classrooms; thus, the students experience the culture of the school building instead of the single room. The unique developmental needs of young adolescents require that this school culture be designed to support not only their intellectual development, but also their social, moral, and emotional development. The middle school movement promotes a philosophy that creates such a culture (Alexander & McEwin, 1988).

Philosophy of the Middle School

The ideals of the middle school philosophy are perhaps most succinctly articulated in *This We Believe* (1995), the position paper produced by the National Middle School Association. Originally released in 1982, the position statement was revised and re-released in 1992 and again in 1995. The primary purpose of *This We*

Believe is to articulate "developmentally responsive educational programs for young adolescents" (NMSA, 1995, p. 3).

The NMSA (1995) paper contends that middle-aged students are going through rapid developmental changes in all aspects, intellectual, physical, social, emotional, and moral. Meeting adolescents' developmental needs is crucial to successful navigation of these profound personal changes; however, there is a wide variation in the rate of development for each individual student. Thus, it is essential that schools find ways to assist students in all stages of their development. In other words, middle school should be "developmentally responsive" (NMSA, p. 3).

Recognizing the diverse and changing needs of early adolescent children is necessary, but not sufficient. In identifying how a school could become developmentally responsive, *This We Believe* outlines some of the characteristics and programs that should be in place. The characteristics include the following: "educators committed to young adolescents, a shared vision, high expectations for all, an adult advocate for every student, family and community partnerships, and a positive school climate." The programmatic aspects would include "curriculum that is challenging, integrative, and exploratory; varied teaching and learning approaches; assessment and evaluation that promote learning; flexible organizational structures; program and policies that foster health, wellness, and safety; and comprehensive guidance and support services" (NMSA, 1995, p. 4). These 12 characteristics delineate the guiding ideals and practices of the middle school philosophy.

When one looks at the list, it can be noted that grade configuration and the name middle school alone are insufficient to complete what is called for in these 12

characteristics. The adults within the school must bring the middle school philosophy into practice. For example, only the classroom teachers can regularly maintain high expectations for all. It could easily be printed in the school handbook, but it only becomes reality when teachers put the idea into practice. The extent to which teachers subscribe to the middle school philosophy will largely determine the extent to which the philosophy is implemented (NMSA, 1995).

In addition to the twelve characteristics described in the position paper, some of the structures believed to bring the philosophy into practice were also outlined. These structures include interdisciplinary teaming, advisory programs, varied instruction, exploratory programs, and transition programs (NMSA, 1995). Nonetheless, putting these structures into place will not change the schooling experience unless teachers use these structures as intended.

On the national level, the first comprehensive examination of middle schools was William M. Alexander's 1968 study published as *A Survey of Organizational Patterns of Reorganized Middle Schools* (Alexander, 1968). These studies largely examined the programs offered in the middle schools, assessing features such as grade configurations, which courses were offered, and how students were grouped.

The findings of these national studies indicate that the middle school concept was increasingly being implemented. For example, at the middle school level, the use of heterogeneous-ability grouping increased for core subjects from 25% in 1988 to 51% in 1993. The use of interdisciplinary teaming increased for core subjects from 30% in 1988 to 52% in 1993 (McEwin, Dickinson, & Jenkins, 1996). As a result of these national findings, it is clear that the reform sought by the middle school concept is taking hold.

Middle School Curriculum and Students with High Ability

Publication of the study in 1983 of *A Nation at Risk* placed the need for

improvement of the American system of public education clearly in focus, and started the

mechanism of change in motion. Ten years later in 1993, the study, *National Excellence*,

affirmed what many had suggested and alleged: that America's most gifted and talented

students, its most excellent learners, who learn rapidly and are usually bored with

traditional classroom activities, often spend their school days with no attention paid to

their special learning needs, even though, as Van Tassel-Baska (1992) noted,

improvement of educational quality requires that educational planners and facilitators be

sensitive to the needs of all learners, and that they plan educational experiences suited to

those learners. In the name of "egalitarianism", social and political goals have been

advanced at the expense of student achievement, to the detriment of learners who require

different levels of depth and complexity and a different pace of learning. Instruction is

tied to curriculum described as "one size fits all" and "teach to the middle" (Goodlad,

1984; Ravitch, 1985; Tomlinson, 1995). Moreover, special programming for high-

ability/gifted learners is purported to detract from educational opportunities for and

therefore, achievement of minorities (VanTassel-Baska, 1992).

Studies reveal three specific characteristics that appear to differentiate learners

from their chronological peers, and to require learning experiences that effectively match

the level of educational challenge to learners' personal skills (Coleman, 1995). These

characteristics include an advance rate of learning, the accommodation of which is

critical to their development (Gross, 1992); an ability to manipulate complex, abstract

ideas and to form bridges/connections among them, which necessitates depth in primary

areas of learning and trandisciplanary in conceptualization (Gallagher, 1985; Lovecky, 1994; VanTassel-Baska, 1989); and an ability to engage in problem-finding, problem interaction, and problem-solving which is best developed in the challenging and stimulating environment which stretch their abilities (Sternberg, 1996; VanTassel-Baska, 1992).

To many, it seems evident that differentiated instructional services and programming are necessary to meet the needs of high-ability/gifted students. What appears to be openly debated, even at this juncture, is the exact nature of the services required. While some maintain that heterogeneously grouped classrooms with enrichment activities available to the gifted (Renzulli, 1986; Renzulli & Reis, 1991) or with learning processes attuned to specific learning processes attuned to specific learning styles and modes of information acquisition are sufficient, the preponderance of evidence appears to point in a different direction. In fact, the work of Passow, Tannenbaum, Carroll, Feldhusen, Sternberg, Gallagher and others seems to support the assertion that gifted learners require learning experiences which integrate a differentiated curriculum and opportunities for meeting their affective needs (VanTassel Baska. 1992).

Within the structure of *Integrated Curriculum Model for Gifted Learners* (VanTassel-Baska, 1994), one finds three specific recommendations for curricular differentiation for learners identified as gifted, all of which are consistently and substantially supported by the work of others. The areas include delivery of instruction, developing student thinking skills, and instructional planning. Within these three areas, one can find the framework for planning appropriately differentiated learning experiences and programs for high-ability/gifted learners.

Delivery of Instruction

In the area of delivery of instruction, there must be compression and acceleration of instruction, in keeping with the "principle of economy" (VanTassel-Baska, 1989). This can be accomplished through the use of instructional methodologies such as diagnostic, prescriptive teaching, which not only permit requisite compression and acceleration of learning, but which also encourage progressive growth and development, as well as providing high levels of challenge necessary for sustained engagement of gifted learners (VanTassel-Baska, 1994). This also allows for accommodating both learning at a pace different from non-gifted peers (Gross, 1992), and variations in learning pace among students possessing differing levels of giftedness (Lovecky, 1994). Additionally, since high-ability learners are capable of manipulating complex concepts (Gallagher, 1985), there should be complexity of curricular content for gifted learners, in order to provide exposure to systems of knowledge with their unique perspectives, to encourage habits of mind peculiar to those systems, and to promote generalizations across systems (VanTassel-Baska, 1994). But acceleration and compression provide more than the cognitive stimulus needed by the gifted. They also afford significant, but often forgotten, affective/socio-emotional benefits and in so doing present an initial guideline for the development of high quality gifted programs (Lovecky). Drum (1993) indicates that students with high ability are capable of dealing successfully with, an average, about twice as much challenge as their non-gifted peers. Therefore, both curriculum and programming for the gifted must include acceleration in order to sufficiently motivate the gifted to succeed and to exercise their gifts at high levels of maturity (Bloom, 1985; Dweck & Elliot, 1983; VanTassel-Baska, 1992).

Developing Student Thinking Skills

Developing thinking skills through curricular process and product goals are the second area of differentiation recommended by VanTassel-Baska's model. Students with high ability are able to deal with complex concepts, to readily manipulate ideas, and to find, interact with and solve problems (Gallagher, 1985; Sternberg, 1996). Therefore, appropriately differentiated curriculum for gifted learners provides them with the opportunity to manipulate material at high levels of complexity (VanTassel-Baska, 1994), promotes high-order thinking skills through the use of models, and affords substantive learning through the creation of knowledge and "real-life" application and product corrections (VanTassel-Baska, 1992; VanTassel-Baska, 1994). Additionally, appropriately differentiated curriculum for students with high ability promotes inter/transdisciplinarity, allows for learner diversity, encourages independent decision-making, and thus a personal investment by the learner in the process (VanTassel-Baska, 1994). Furthermore it emphasizes both intrapersonal aspects of the learner's experiences, through metacognition, and the interpersonal ones, including communication and relational skills (VanTassel-Baska, 1989). Via the interwoven emphasis across domains, the focus upon appropriate processes and products offers the second significant guideline for gifted programming: depth and complexity (Piechowski, 1986: Silverman, 1993).

Instructional Planning

Finally, instructional planning of curricular issues and themes form the third area of differentiation suggested by VanTassel-Baska (1994). Durr (1964) suggested that because of their characteristic intellectual, emotional, creative, physical, and/or sensual

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energies, gifted students often exhibit an intensity which manifests in a predisposition to care deeply about people and events, about causes and effects, about the "great" concepts, issues and themes which underlie their knowing and their very being (Silverman, 1993). Because of this, curriculum for the students of high ability must address major concepts, themes, and ideas that have guided the development of civilization, and that apply not only within specific disciplines, but also across them (VanTassel-Baska, 1994). In like fashion, programs for the students with high ability must also address major themes, issues, ideas, and concerns, must be conceptually sound, and must promote inter- and trandisciplinarity.

Forsbach and Pierce (1999) found that there is no single profile that describes all students with high ability and no single provision appropriate for all students identified as gifted. They stated that students with high ability possess different talents, interests, weaknesses, learning preferences, and different rates of learning. Cognitive growth also varies among middle school students with high ability. In choosing curriculum to use with middle school students with high ability, they concluded that teachers should recognize and address these differences.

Cocking (1989) stated that curriculum provided for students with high ability must be different than the regular curriculum. He suggested modifications that occur in the gifted curriculum should focus on the quality of work rather than the quantity of work, and the curriculum should strengthen students' abilities. He indicated that in order to make curriculum more pertinent for students with high ability, the teacher should modify the content, the process, the product, and the learning environment.

Maker and King (1996) found that qualitatively different curricula are essential in meeting the needs of students with high ability. The researchers stated that no one program is effective enough to meet the needs of these students because students with high ability differ. However, they concluded that one model that has been shown to be effective in working with gifted students is the Concept, Content, and Product Model. The concept part of the model focuses on exploration of key concepts. The content focuses on advanced content, and fast-paced instruction. The product part of the model concentrates on in-depth work on selected topics.

The Enrichment Triad Model, developed by Renzulli (1991) is one of the most popular models used to design curriculum for students with high ability. This model consists of three integral parts that are Type I, Type II, and Type III enrichment activities. Type I activities are general exploratory activities designed to expose the students to a variety of topics and interest areas. Type II activities are enrichment activities that involve dealing with the development of cognitive and affective processes. Type III activities are enrichment activities that involve dealing with studying authentic problems that are comparable in nature to those studied by researchers in their fields.

Renzulli (1991) reported that curriculum for the gifted should 1) encourage students to become investigators of nonfiction problems or ideas by using inquiry methods, 2) provide students opportunities to create and solve problems, 3) allow students to view results from others as optional instead of factual so that they can formulate their own conclusions, 4) show students that inquiry methods lead to tangible outcomes and, 5) encourage students to apply cognitive and affective approaches to real situations as opposed to structured exercises.

The Purdue Three Stage Enrichment Model is another curriculum model used in working with students with high ability. This model is built upon three levels of skill development (Feldhusen, 1989). Level I concentrates on the development of divergent and convergent thinking abilities. Teaching sessions may include numerous short-term activities that focus on creative thinking exercises. Basic and content skills may also be inserted at this level. Creative thinking activities may include activities such as listing unusual needs for trash bags, thinking of new ways to use a bicycle, and foretelling outcomes of unlikely events. Feldhusen asked, for example, "What would happen if there were no televisions or no McDonalds?" or "How could one design a vehicle of the future using anything you might find in a junk yard?" (Feldhusen, p. 24). He believed that these types of exercises enhanced ideational fluency, originality, flexibility, and elaboration.

Feldhusen (1989) found that Level II focuses on more challenging and practical strategies. The Creative Problem Solving Model, which is a model that focuses on creative thinking and problem solving, is often used at this stage. An activity at this level may involve asking a student to create a game for children of the future. Level III focuses on the development of independent study skills. Activities at this stage involve students in complex activities such as identifying and solving a problem, collecting data, interpreting results, and presenting findings.

Throughout the literature critical thinking is recommended for students with high ability; however, Coleman and Gallagher (1996) studied curriculum for students with high ability and noted that teaching and learning strategies focus mainly on acquisition and recall of knowledge rather than analysis, synthesis, and evaluation, as encouraged in

the higher levels of Bloom's Taxonomy. He found that questioning strategies are significant in helping students gain a deeper and broader meaning of concepts. He recommended that teachers of students skillfully formulate questions to help students become efficient in critical thinking and analysis skills. Tannenbaum (1983) also found that teachers determine the complexity of students' responses as they relate to mental activities. He stated that if a teacher asks a low-level question, he or she will receive a low-level answer, and if he or she asks a high-level question, he or she will receive a high level answer.

Archambault, et al. (1993) found that differentiating curriculum for students with high ability should focus on abstract reasoning, critical thinking, and accelerated and/or enriched content. They allow students the opportunity to use research skills, which promote greater breadth and in-depth learning. They found that many students with high ability go unchallenged in the regular classroom, and few receive services that are essential in helping them develop their unique abilities.

Gifted Program Development

What comprises "best practice" within the field of gifted education, based upon attributes identified by research, and reported in the literature? The literature supports the need of specifically differentiated programming for students of high ability, who fare less than optimally in classrooms grouped heterogeneously according to chronological age of students. Specifically, there is the need for quicker pace of learning, differentiated depth and complexity of subject matter, and a supportive social system within which the learner may thrive (Feldhusen & Moon, 1992; VanTassel-Baska, 1992). Therefore, grouping

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and acceleration, accessibility, participant identification, co-curricular opportunities/support for students, and program direction, support and evaluation (NAGC, 2004) are all areas of focus when looking to determine best practice.

At all grade levels, other than not having any programmatic accommodation, for the student with ability, integration in homogenously grouped classrooms is the latest desirable option, since within a heterogeneous setting significant differentiation is rarely offered. Enrichment, a process of providing additional or extended material to that normally studied in classes, as advocated in the Renzulli (Renzulli & Reis, 1991) Enrichment Triad Model, or multiple-intelligence type instruction, which address student learning styles and modes of data acquisition and/or interaction, as proposed by Gardner (1993); both good for all students, but demotivating and repetitious for the gifted, are typically the mode of accommodation. (Feldhusen & Moon, 1992; Rogers, 1991; VanTassel-Baska, 1992).

Borland (1989) suggests that enrichment, though widely utilized, is not appropriate as a sole mode of differentiation, since it is offered in a heterogeneous setting, at chronological age grade, and involves non-cognitively matched peers, thereby bypassing pace of learning and depth of investigation modifications appropriated to the gifted. Borland further maintains that pullout programs serve students with high ability better than heterogeneously grouped classrooms, because students are able to interact with cognitive peers at an accelerated pace on a higher-level material at least part of their educational time. Advanced placement (AP) and pre-international baccalaureate (pre-IB/IB) programs at the high school level, and pre-advanced placement (pre-AP) classes at the middle school level share some attributes of pull-out programs at lower grade levels,

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providing either part-time grouping with other students with high ability, or full-time

grouping with other highly motivating and/or high achieving/talented (but not necessarily

gifted) students (Borland).

Of all the options at all levels, a full-time program specifically differentiated for

the gifted, whether offered in free-standing or school within a school format, represents

best practice for students with high ability because cognitively appropriate material can

be offered at an accelerated pace in an atmosphere which provides both challenging and

affective support for the student (Feldhusen & Moon, 1992; Silverman, 1989; Slavin,

1987; VanTassel-Baska, 1992).

Acceleration quickens the pace of learning through use of diagnostic, prescriptive

teaching and other modes which better accommodate the students with high ability

(Lovecky, 1994; VanTassel-Baska, 1992;), and coupled with accurate matching of

cognitive and affective peers, as is the case in a full-time program, provides the most

appropriate curricular and instructional program for students with high ability because

content and learning facilitation at the cognitive and affective level of the learner are

prescribed, because the pace of interaction with new learning is quickened, and because

depth of investigation and interaction with substantive materials is provided (Sternberg,

1996; VanTassel-Baska, 1992; 1994). This is especially true at the high school level,

since they allow for concentration on, or immersion in a specific academic discipline, for

mentorship opportunities within students' selected career opportunities, for exploration of

multiple career areas and for dual-enrollment in college courses (or substitution of those

higher-level courses for high school credit), as well as for meeting the affective needs of

the student with high ability (Bloom, 1985; Dweck & Elliot, 1983; Feldhusen & Moon,

1992; Gross, 1992; Lovecky, 1994; Shore, Cornell, Robinson & Ward, 1991; Slavin, 1987; VanTassel-Baska, 1992).

Since the affective characteristics of students with high ability are observably and markedly different than those of the general education population (Lovecky, 1994; Shore, Cornell, Robinson, & Ward, 1991; Silverman, 1989; VanTassel-Baska, 1989), so also are their affective/social needs. Meeting the affective needs of students with high ability, something often overlooked by gifted programs (Coleman, 1995; Shore, et al.) is another indicator of best practice in gifted program development.

Formal counseling concerning educational possibilities and choices is the most basic counseling need of the students with high ability, followed closely, and perhaps even superceded in the middle grades, by career counseling (Silverman, 1993; VanTassel-Baska, 1992). Yet many gifted programs do not offer even this level of service to their participants (VanTassel-Baska, 1994).

Formal opportunities to meet for affirmation, encouragement and sharing of concerns are the next level of counseling services for students with high ability (Colangelo & Peterson, 1993; Shore, et al., 1991; Silverman, 1993). These counseling opportunities, both individual and group allow students with high ability to deal with the issues caused by the asynchrony of development of cognitive and affective skills, and with many issues caused by the exceptional levels of sensitivity and concern the students often express.

Finally, there is the need for informal opportunities for the students with high ability to meet in extra- and co-curricular, as well as strictly social activities. Because many of the students display a tendency toward working independently (Colangelo &

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Peterson, 1993), it is imperative that the schools provide multiple opportunities for them to associate with cognitive and affective peers.

Participant selection is another aspect of best practice that must be considered in program development. Though historically participation in programs for the gifted has been limited to those who scored at or above the 97th percentile on intelligence (IQ) tests, research and practice since the mid 1980's has leaned toward the use of multiple indicators in choosing participants for gifted programs (VanTassel-Baska, 1991). Project Mandala (Whitley, 1996) demonstrated the importance of the use of non-traditional indicators along with traditional ability indicators in the identification of participants. Gagne's work (1995) has indicated that students with high ability can be, and are, identified successfully by teachers, peers, and even self-nomination. Expanded definitions of giftedness, whether categorical or unitarily intellectual (Gagne, 1995; Gardner, 1993) also require going beyond the IQ/general indices (Borland, 1989; Freidman, Robinson, & Porter, 1994; Sternberg, 1996). Therefore, programs that utilize multiple indicators of giftedness for identification of participants are considered to be of higher quality than those utilizing only one indicator.

Finally, one must consider the actual operation and evaluation of the gifted program. Teachers and administrators working with students with high ability must be aware of their unique needs, both cognitively and affectively, and of their often asynchronous development, and must have the training necessary to meet those needs (NAGC, 2004; Shore, et al., 1991; Silverman, 1993; VanTassel-Baska, 1989). Additionally, there must be regular, ongoing and accurate evaluation of gifted programs

(Feldhusen & Moon, 1992; NAGC, 2004) to assure that those programs are meeting the needs of those that they serve.

Brinson, Cox, Kelly, and Ondo (1989) listed seven steps in developing a comprehensive program for gifted students: 1) Review important regulations, including state guidelines; 2) Assess current programming for gifted students, including philosophy and priorities, curriculum objectives, scope and sequence, student assessment, and pacing; 3) Establish a philosophy consistent with the needs and values of the school, district, and community; 4) Establish desired student outcomes and explore program implications and assessment tools; 5) Develop a long-range management plan that specifies goals and objectives reflecting areas and priorities for program development. These should also outline new initiatives and expand those currently in place that will help realize desired outcomes; 6) Create an implementation plan that specifies responsibilities, sequence activities, and provides a mean to monitor the fulfillment of planned objectives and desired student outcomes; and 7) Evaluate implementation activities and their outcomes to assure accountability and to provide direction.

Sonnenburg (1983) stated that although students identified as gifted have high potential for success, they need direction and support from teachers, administrators, and parents to aid them in reaching their full potential. A study conducted on 251 high ability students, showed that 54.6% of these students were working approximately four grade levels below their ability level. The researcher stated that it is important that gifted students consistently gain the knowledge and skills to help them maximize their potential.

Renzulli (1991) described compacting as a desirable plan for meeting the instructional needs of students with high ability. Compacting the curriculum allows the

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students to work only on assignments that they have not mastered. The researcher emphasized that this approach allows the students freedom from repetitious learning and allows them more time to spend on new learning.

Stanley (1981) reported that acceleration should be used in meeting the instructional needs of students with high ability. Results of his study of students advanced in mathematics and science demonstrated that acceleration was effective in meeting their needs. The results also confirmed that students were eager to move ahead. His study at John Hopkins University found that acceleration is more beneficial than enrichment for students with high ability.

Parke (1984) conducted a study to determine the effect of providing identical programs to all students. She found that students with high ability scored nearly the same as the students not identified as gifted when they were given identical programs.

Westberg (1993) stated that students with high ability need differentiated instruction in order to understand and develop their abilities. Differentiated instruction includes advanced process instruction, advanced product or project instruction, and independent study with self-selected topics. Research supports the position that the student's needs, abilities, and interests should determine the student's educational program.

Alexander and Muia (1982) indicated that it is essential to provide students with high ability with personalized instruction that is geared to meet their specific needs. A specific learner instructional plan should be developed for each individual. The plan helps to identify those strategies that are most beneficial for the student. The specific learner instructional plan reflects the teacher's awareness of teaching styles by using

approaches that are most productive for students with high ability. The researchers noted that no teacher will be aware of every teaching style, however, they can expand their awareness of various teaching styles.

Davis and Rimm (1998) found that self-selected independent study is another method that can be used to meet the instructional needs of students with high ability. Using this method, students select topics to study and the teacher is responsible for teaching students essential skills for working on the independent project. The researchers concluded that self-selected independent study also provides enrichment for students with high ability.

Parke (1989) identified grouping as another way of meeting needs of students with high ability. The researcher suggested grouping patterns that may be beneficial for students. She stated that students with high ability who share common interests might be grouped together to work on a project, report or some other common goal. Another pattern she identified was multi-aged classes. Gifted sixth and seventh graders may be grouped in the same classroom because of their common interests.

Rogers (1991) shared data from 13 research reports that supported grouping practices for the education of students with high ability. The report stated that non-graded classrooms, curriculum compaction, grade telescoping, and subject acceleration practices produce significant academic gains for students with high ability. Students should be allowed opportunities involving a variety of appropriate acceleration based options that may be offered as a group or on an individual basis.

David, Milanovich, Burnett, and Matz (1994) found that in order to teach students with high ability, there are certain instructional delivery methods that can be utilized. In

their study, the following methods were reported as being utilized in dealing with the

needs of students with high ability: tracking (ability grouping), resource teachers,

enrichment within the classroom, pull-out programs, accelerated classes, independent

study, mini-courses, mentoring, accelerated grade placement, tutoring of others,

compacting the curriculum, travel to high school, interdisciplinary teams, and individual

acceleration.

By studying various educational options for the gifted, Schwartz (1994) listed the

following eight instructional delivery methods as principle educational options in

working with students with high ability: mainstreaming, enrichment programs,

homogenous classes or schools, acceleration, mentoring, independent study, distance

education, and summer, weekend, or other short-term programs.

Schwartz (1994) contended that a major concern in middle level education is how

to educate students with high ability. Though all ability levels can utilize the

aforementioned options, Schwartz believed that such appropriate educational methods

form a useful framework for district programs and is an appropriate link to design

mandated IEP's. The comprehensive study and research completed by Schwartz dealt

solely with gifted education throughout the country.

Mainstreaming is the education of students in a regular heterogeneous classroom.

Students are not separated by grouping patterns, gender, or ability. Academic

achievements are based on students' desires and the desires or skills of the classroom

teacher. Educators who are against mainstreaming believe that students with high ability

will not learn at their appropriate level if they are totally mainstreamed; students with

high ability already know a significant amount of the curriculum that is going to be

taught in the regular classroom. One way to meet the needs of students with high ability in the regular classroom is through differentiation of instruction (Winebenner, 1992).

Differentiation usually takes three pathways: the content of the instruction, the process to be utilized, and the desired product or outcome (Tomlinson, 1987). Generally, students cover the allotted information in the regular period, while students with high ability may cover it in less time. Cluster grouping allows differentiation in a classroom setting when groups of students with high ability are placed together. This type of system has two advantages (Parke, 1989). Teachers have a defined group of students with similar ability making it easier to plan a program. The students have opportunities to interact with other students with similar ability.

Renzulli (1991), Van Tassel-Baska (1989), and Maker (1983) explained that curriculum can be used to meet the needs of students with high ability based on a school's curriculum. The special needs of the students must be taken into account rather than segmenting the curriculum. Maker discusses differentiation for students with high ability with a focus on curriculum programs that help students develop problem-solving abilities.

When differentiation focuses on specific projects versus an entire curriculum, students must be able to work on projects based on their individual needs not on a group assignment. Though all students need to develop their thinking skills, students with high ability need to be given opportunities to work at their own ability level. Renzulli (1986) and Kaplan (1981) affirm that if an educator understands that the intellectual needs of students with high ability are different from those of the average student, the needs of the students with high ability will be met. On the other hand, if educators do not understand

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the importance of differentiation, the educational needs of the students with high ability will be left unfulfilled.

Another method of delivery within the mainstreamed classroom that has come to the forefront is cooperative learning. Cooperative learning employs a group learning technique versus individual instruction. Cooperative learning strategies often result in improvements in the achievement of students and in the quality of their relationships with others (Slavin, 1990).

Peterman (1990) stated that teaching students to learn and work in a cooperative environment prepares students for a diversified society, one in which they will be living and working with people of all races and nationalities who have previously been segregated and alienated. According to Coleman, Gallagher, and Howard (1993), this method of differentiation often comes under criticism by proponents of gifted education and is usually not promoted in gifted literature as a strategy to use with students with high ability. However, at the conclusion of their study, these same researchers discovered that cooperative learning is beneficial when used in homogenous groups. If the grouping is heterogeneous, the benefits are not as pervasive; however, they do outweigh the drawbacks (Coleman, et al.).

Robinson (1990) indicated that if cooperative learning is utilized as a teaching tool for students with high ability in the regular classroom, the groups should be made up of primarily of students with high ability, not students of lesser ability levels. This theory negates the basic philosophy of cooperative learning that promotes heterogeneous grouping (Johnson & Johnson, 1989; Slavin, 1987).

Benjamin Bloom (1985) was one of the pioneers in instructional differentiation. Using the objectives of knowledge, comprehension, application, analysis, synthesis, and evaluation, Bloom set out to provide a taxonomy that encompassed learning based not on a specific curriculum, but on one that could be applied to any and all curricula according to teacher objectives. Teachers can move from one level of questioning to another, thereby challenging the talented students to seek answers based upon a higher level thinking skill. Renzulli (1991) supported Bloom's Taxonomy and indicated that the typical curriculum guide should utilize Bloom's Taxonomy and educational objectives (Bloom) or Guilford's Structure of Intellect Model (Guilford, 1967). Educators have explored Gardner's ideas on multiple intelligences more recently as a means of meeting the individual learning styles of students in the regular classroom (Delisle, 1994).

Gardner's Theory of Multiple Intelligences has offered educators another comprehensive framework with which to meet the varying needs of students with high ability (Maker & King, 1996). There is research and testing support for Gardner's theory of eight intelligences. This theory endeavors to provide an effective academic environment based upon unique learning styles (Armstrong, 1993). The connection between this framework and gifted education is the opportunity it provides for a variety of learning experiences for all students with high ability based upon their individual talents. These, of course, can also be used for students of varying abilities. Although Gardner does not focus on gifted education, his identification and development of various intelligence theories allow educators another option in meeting the needs of students with high ability. Gardner's theory defines the following eight intelligences and promotes the concept that these are inherent in all of us, though some are more developed than others.

They are as follows: linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalist (Armstrong, 1993). If the proponents of gifted education use and accept the multiple intelligence theories, then the need for separate services for students with high ability should no longer be required; these needs and the needs of all students will be met in the regular classroom (Delisle, 1994).

Enrichment is extending or broadening the curriculum to offer the student with high ability experiences beyond the regular classroom curriculum. A problem with this method of delivery is that it is often used to satisfy the total needs of the students when, at times, not enough challenging material is being offered (Stanley, 1981). Allowing students to become more involved in projects can alleviate this shortcoming. Winebrenner (1992) suggests that teachers provide students with opportunities in which to create their own enrichment materials. Renzulli's Triad Model (1991), discussed previously, is an example of a proven technique using this delivery system.

Enrichment can be positively utilized because it encourages students with high ability to take more responsibility for their education (Clifford, 1990). One study that measured the achievement of students with high ability that worked in an enrichment delivery system found that the students made significant educational gains under this system (Feldhusen & Moon, 1992).

One of the most common methods of providing enrichment is through pullout classes. Renzulli (1991) and Clark (1992) contended that pull-out programs have positive benefits for the education of the student with high ability because the programs can be initiated easily, offer another means by which the students can be educated outside

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of the heterogeneous classroom, and provide teachers with a less-complicated method of instructing students with a single ability.

By contrast, Toll (1991) argued that part-time programs, such as pullout models, inadequately meet the needs of students with high ability. She states: "if giftedness is twenty-four hours a day, not only on Wednesday or Friday from 2:00 p.m. to 3:00 p.m., then full-time gifted programming offers a vehicle to address the range of needs of these children every hour of the instructional day" (p. 14).

Cox, Daniel, and Boston (1985) also found pullout classes inadequate in meeting the needs of the gifted. Belcastro (1987) concluded that pullout programs create an impression that the needs of the students with high ability are being met when, in actuality, this does not occur.

"Homogenous classes can meet the needs of all students, not only the gifted and talented, if handled in a sensitive and appropriate manner" (Schwartz, 1994, p. 89). Schwartz's belief in segregated classrooms reflects the opinion of many of today's gifted education proponents. The major contention of this philosophy is that students who have similar abilities should be educated together. If students with high ability are grouped together, then their individual potential can be met. Van Tassel-Baska (1992) stated that full-time grouping must be recognized as an area to explore regarding the development of individual potential.

The studies of Kulik and Kulik (1990) found that students with high ability benefit affectively and cognitively when working with other students with high ability. Johnson and Johnson (1989) indicated that students with high ability should at times be segregated, work alone, and even engage in academic competitions.

There are, however, others who believe that homogenous learning environments can hamper the individual learning capacities of the gifted and talented. Slavin (1987) and Oakes (1985) are strong advocates for heterogeneity. Their research has been used to justify heterogeneity and to justify dropping homogenous grouping patterns in the schools.

Reaction to the elimination of grouping, especially at the middle school level, has come under attack. Through the explorations of Vaughn, et al. (1991) and Kulik & Kulik (1982, 1984), grouping students identified as gifted by ability has been shown to meet the needs these students. Finally, Feldhusen and Saylor (1990) indicated that students with high ability need to be with intellectual peers in order to be effectively challenged in the classroom.

Gifted resource programs and classroom enrichment are suitable strategies that challenge students with high ability; however, acceleration appears to be more practical and consistent according to Rimm and Lovance (1992). Tomlinson (1987) remarked that gifted students also need attention, challenges, and training when placed in an advanced placement or acceleration programs.

In 1992, the issues involving acceleration were researched and catalogued. Researchers Southern and Jones (1992) divided these concerns into the following categories: matters that arise from conservative attitudes and hesitation about acceleration; increasing resistance of students who might be candidates as they go through school; and practical difficulties that arise from such a decision (p. 34).

Elkand (1988) maintained that matching the curriculum to childrens' abilities is not acceleration but simply meeting the needs of students. He believes that this is an effective teaching practice that must occur for all children.

Feldhusen and Saylor (1990) developed guidelines to be followed before this advancement could occur. In their studies, they define three generalizations in referring to the practice of acceleration. They are as follows: There is no empirical basis for the belief that grade advancement will result in either social-emotional maladjustment or gaps in learning. Based on objective measurements of educational performance and subjective measurements of parent and student satisfaction, they suggest that grade advancement results in more positive consequences than negative ones. Academically, it does not seem to matter which grade level the child does not directly experience.

Stanley (1981) also promoted the use of the acceleration model for the students with high ability. In an eight-year project conducted within the disciplines of science and mathematics, Stanley demonstrated the success these students achieved due to the opportunities afforded them through acceleration.

Another form of acceleration is called telescoping. In this strategy, students enter a mixed-grade situation with the knowledge that they will be permitted to complete more than one year's work within one school calendar year (Parke, 1989).

Curriculum compacting, a definitive method of acceleration, focuses less on whole subject/grade advancement and more on providing students with opportunities to skip previously learned material. In a research project conducted by Reis, Burns, and Renzulli (1992), it was found that 78-88% of average readers in fifth and sixth grade could pass pretests on basal comprehension skills before the skills were covered in class.

Their recommendation for curriculum compacting was based upon the findings that current textbooks are too rudimentary and students with high ability are unchallenged. This promotes passivity and poor perspectives toward learning as well as minimal educational performance. Underachievement can cause many exceptional students to stumble in secondary school or college because they lack the study habits and discipline essential for academic success (Reis, 1992).

Starko (1989) endorsed curriculum compacting because the student with high ability and the student with average ability can remain in the same classroom while the intellectual needs of both students can be met. Reis, et al. (1992) found that this method challenges the student with high ability. Students can move at their own pace, while not having to spend an excess amount of time reviewing and practicing learned material.

The mentoring format is a delivery system endorsed by proponents of gifted education. A mentor can be considered an advisor, facilitator, or even a counselor. Mentors can provide students with direction and concrete information in which to explore an idea while interacting with the teacher/tutor. Students who have participated in mentoring programs usually have more established goals (Rice, 1991). Mentoring programs can provide a means to differentiate within their regular program (Clifford, 1990). To meet the needs of precocious youth, mentoring has been used as a way to provide educational opportunities in the areas of math and other core subjects (Lovecky, 1994).

Mentoring is listed as an option that meets the needs of students with high ability; however, Feldhusen (1989) commented that this type of a program must be at the appropriate intellectual level and the experiences encountered by the students need to be

challenging. Mentoring can create opportunities for students to pursue in-depth careers and work with professionals in the community. Boston (1976) maintained that mentoring programs could provide learning opportunities that enhance the mental competencies of the student with high ability while providing the opportunity to increase individual skills. If used as an integral part of a middle school gifted education program, a mentoring program offers students a chance to work with a community member who could help them advance toward independent research (Peterman, 1990).

Independent study is another delivery system discussed by Schwartz as a common element utilized in the teaching of the student with high ability (Schwartz, 1994). In this format, the student can interact outside of the school environment and explore areas of personal interest. Using a tutor, teacher, or community service representative, the student can research information on subjects not found in the regular curriculum. Correspondence study, computer programs, and self-set explorations offer the verbally talented student a chance to investigate a program based upon individual interests (Sawyer, Delong, & von Brock, 1987).

Treffinger's Individualized Program Planning Model (1991) focused on providing individual educational programs for the students with high ability based on their abilities and interests. Independent studies provide opportunities for research and the use of advanced materials. It also gives students more responsibility in planning their own studies (Chuska, 1987). These types of programs can be used for any student at almost any time. Other studies have found that the advantages of independent studies far outweigh the disadvantages because they intensify decision-making proficiencies and require little, if any, cost to the school district (Sawyer, et al., 1987). Gallagher also

endorsed the independent study as a viable means of individual pacing and learning (Gallagher, 1985).

Distance education has been used to provide science, advanced mathematics, and other courses to schools in relatively isolated areas or with very small enrollments (Schwartz, 1994). In the state of Wisconsin, a program for the students with high ability was offered in which students had the opportunity to interact with college professors. According to the author, the successful schools of tomorrow will be judged on the ability to provide instructional opportunities through telecommunication (Burke, 1991). This delivery model could be utilized with satellites or cable television.

Summers, or weekend programs, though outside of the regular school setting, are another option that students may exercise to meet their intellectual needs. This type of environment not only is important on an academic level, but it also assists in the development of self-confidence while promoting peer interaction (Schwartz, 1994). These special programs can be broad-based with travel outside of the country not uncommon. The United World College is one means whereby students between the ages of 16 through 19 can study curriculum before they enter college (Daniel & Cox, 1992). Drawbacks to this type of programming include student selection by invitation only and student-paid expenses. Questioning these types of options, Feldhusen (1989) maintained that the critical problem in the summer, weekend, and other special programs is determining how to provide the gifted student with appropriate, challenging, learning experiences on a daily basis as well as supplementing the curriculum to meet their individual needs.

Educational Factors and Underachievement

In 1922, Leta Hollingsworth, a pioneer in the gifted child movement, exhorted researchers to study youth with high ability in order to better differentiate their curriculum. In 1931, she likened compulsory heterogeneous education for students with high ability to the equivalent of teachers and school administrators being forced to consort on a regular basis with "thugs and gangsters" (Klein, 2000, p. 102). By 1940, she looked forward to a time when the "school will be fitted to the child. Suicide of pupils, in despair at failure, will be unknown. Truancy will be outdated...the gifted will be selected for the extraordinary opportunity, which suits them by nature" (Klein, 2000, p.103).

Hollingsworth may have made her remarks decades ago, but according to current federal laws in the United States, all students have a right to a free appropriate public education, as well as opportunities that assist them in reaching their potential. Students with high ability are no exception. Inappropriate education not only does not promote academic achievement, but also, for some, can lead to severe underachievement in school. Given the statistics on high ability students, it would seem logical that motivating underachievers should be a major concern of our schools. A serious examination of students' school, classroom, and curricular options is something that would benefit many underachievers (Fehrenbach, 1993).

Fehrenbach (1993) studied ten students with high ability ages 14-20 that had been underachievers but became high academic achievers later in school. Through the study, these students and the researcher were able to identify six factors that had a positive effect on performance: parents, setting of academic goals, appropriate and desirable academic instruction and curriculum, a teacher who genuinely liked and encouraged

them, self-growth and responsibility and out-of-school interests that resulted in personal success.

Other researchers have critically examined educational policies, school environment, teachers, and the possibility that students could be underachieving out of boredom (Heller, 1999; Rimm & Lowe, 1988; Supplee, 1989; Whitmore, 1986), or a mismatch between curriculum and needs, or learning styles (Gowan, 1977; Richert, 1991; Torrance, 1980; Whitmore, 1986; Zilli, 1971). Too easy of a curriculum is inappropriate, leaving students, especially those already at-risk for other reasons, under-challenged and underachieving (Clifford, 1990; Silverman, 1989). Inflexible educational policies, failing to allow individual students to pursue the optimal plan for them when it diverges from what is best for most students and insistence on a lock-step approach to education have all been cited as areas for concern (Clinkenbeard, 1996; Maker, 1983; Supplee, 1989). Some studies have found that acceleration; a viable option for particular underachieving students with high ability, is rarely permitted by school administrators (Fehrenbach, 1993). Other students, who have little motivation to excel in school, underachieve primarily due to a mismatch between the child's wishes regarding learning and the opportunities given that child within the school setting (Whitmore, 1986).

Peterson (2001), understanding the relationship between achievement and atmosphere, coined a name for environments and teachers that promoted achievement, calling them "inviting." Inviting schools address students and their needs holistically, not just academically, but socially, psychologically, educationally, and culturally as well (McCombs, 2000). Classrooms that are inviting to students with high ability are those where psychological safety is a reality: where no one is ever called "egghead", "nerd", or

"brain", and intelligence is a valued commodity (Kennedy, 1995). According to

McCombs, a school or classroom that promotes psychological safety exemplifies a

culture of care, and "represents a core set of beliefs about how we should be with other

people" (p. 32). Unfortunately, "teachers and administrators sometimes use fear to coerce

students into compliance with their desires. The system has a devastating impact on some

students struggling with the learning process" (p.11), stifling creativity, and forcing

students to hide their intelligence. Torrance (1980) noted, based on data from his 22-year

longitudinal study of creativity, schools often value conformity over creativity. In doing

so, they effectively extinguish children's creativity and promote underachievement.

Motivational and social factors are also important elements of appropriate

programming for students with high ability (Clark, 1983; DeLisle, 2000; Kennedy, 1995).

Studies have found that inadequate educational opportunities can lead to

underachievement. A classroom environment that is rigid and unstimulating

(Clinkenbeard, 1996), where repetition is rife (Rimm, 1995), and tedium is the word for

every day can obliterate the joy of learning from school for many highly able learners.

Rimm (1995) and Ballard (1993), found that students with high ability are frequently

afforded opportunities for competition, and that competition is sometimes employed as an

intervention for underachievement, but Borland (1989) maintained that excessive

competition exacerbates underachieving behaviors in those who are noncompetitive by

nature.

For many students with high ability, the quality of their school life hinges on the

teacher(s) with whom they spend their days. In a survey, classroom teachers across the

United States reported that although most students with high ability spend the majority of

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their time in regular, heterogeneously grouped classrooms, teachers make only minor modifications in order to accommodate the needs of students with high ability (Archambault, et al., 1993). When four or more students with high ability are "clustered" in heterogeneous classrooms, however, the teacher is much more likely to make appropriate educational accommodations for those children (Alan, 1991; Feldhusen, 1989; Rogers, 1991). Another survey (Renzulli, 1986) of experts in the field of gifted education identified teacher selection and training as the single-highest priority in the field at that time.

Though all children function to a higher degree in classrooms where teachers genuinely like and respect them, this type of teacher is important for the academic survival of many students with high ability. Some teachers do not value qualities such as extreme intellectual precocity, and may respond by treating children like the adults they may resemble, not taking into account that extreme intellectual precocity does not necessarily equate to exceptional psychological or social maturity (Baum, Olenchak, & Owen, 1998; Rimm, 1988). Other teachers dislike the constant challenges directed at their intelligence or competence, and actually feel intimidated by the students (Kennedy, 1995). Some teachers freely admit they do not like working with students with high ability, and many more feel the same way, but do not openly discuss it. Others simply do not value academic brilliance (Cramond & Martin, 1987), and view "gifted as a privilege" to be revoked at the first sign of "misbehavior," (Whitmore, 1986). These teachers sometimes deliberately, and other times subconsciously, punish students with high ability for being what and who they are. This punishment is accomplished in many ways. Sometimes it is by setting teacher expectations either too low or too high, which

causes problems for students with high ability (Robinson, 1990). Teachers who expect students to be perfect because they are identified as gifted, or who perceive their students as irresponsible and give lower grades as a result, set children up for failure and underachievement (Kolb & Jussin, 1994; Weiner, 1994; Wentzel, 1993; Whitmore, 1986). Students with high ability who violate teacher expectations tend to receive less praise and lower grades than those who do not. Bricklin & Bricklin's (1967) study corroborated these findings, and also found that teachers and counselors with negative attitudes toward underachieving students with high ability could significantly worsen students' achievement problems, rather than alleviate them.

Teachers who expect that students will continue to underachieve rarely raise performance. Instead, a cycle of underachievement ensues: students' behaviors lead to teachers lowering expectations about student performance, and the student lowers his or her performance even further (Kolb & Jussim, 1994). In the same vein, well-meaning teachers who consider lowering expectations due to perceived inequities, e.g., cultural or socioeconomic, do their students no favors when they do lower the bar, failing to realize that students still need an appropriate education despite those issues (Hébert, 1997). That very education may eventually help them change their circumstances.

Educators who are not familiar with the psychological over-intensities displayed by many individuals with high ability are sometimes unsure of how to deal with the emotional outbursts, mild neuroses, excessive activity levels, unwavering intellectual persistence, vivid imaginations and constant conversation found in the gifted classroom. Uninformed teachers may punish students for this perceived misbehavior, or attempt to have certain children labeled as Attention Deficit Hyperactivity Disorder (ADHD).

Conversely, teachers who have had training in what to expect from students with high ability, as well as how to meet their social, psychological and curricular needs understand the differences between genuine misbehavior and over excitabilities, and that bright children who are actively engaged in their learning rarely misbehave; they are too busy (Piechowski, 1986).

Of the 50 states in this country, only 24 currently require specific training for teachers of the gifted (Karnes & Wharton, 1996). Often this training consists of only three to four courses, but it is enough, at least, to acquaint them with the characteristics and needs of talented youth, and with the idea that effective teachers of students with high ability are those who are willing to advocate for their students (Kennedy, 1995).

Effective teachers of the students with high ability are those who model for children their personal struggles and imperfections, teaching children the value of persistence and that no one is perfect, or expected to be perfect (Nugent, 2000). Others, who relinquish their need to keep their power to themselves, share it with students in order to empower them (Alvino, 1987). These teachers, who tend to have a more flexible approach to instruction, are more accepting of individual differences in students, and are willing to get to know their students as people are considered more effective, and to be promoting a supportive learning environment (Baldwin, 1993; DeLisle, 2000; Gallagher, 1985; Heller, 1999; McCombs, 2000). Teachers, who express a personal passion for learning, also encourage the development of achievement motivation in their students (Heller, 1999).

Passow & Goldberg (1959) and Goldberg (1965) noted that a consistently caring and unconditionally accepting teacher could help reverse underachieving behaviors. The

Archambault's, et al. study (1993) of high school student underachievers who reversed

the trend found that just one teacher who genuinely liked the student, was willing to

communicate as a person, was enthusiastic about his or her subject matter, and employed

creative teaching methods could make all the difference in the world for that student.

Conversely, teachers who do not have these qualities can quickly and effectively

extinguish even the brightest spark for learning. Some teachers exhibit no passion for

learning or their jobs. Underachievers can always recall the name and characteristics of

the teacher(s) whom they considered their greatest tormentors, but those who reverse

their underachievement also remember those "teachers who will live on in the hearts and

minds of their appreciative students; they have performed the noble achievement of

turning desperate victims into joyful successes" (Ciaccio, 1998, p.16).

Principals as Instructional Leaders

The answer to the question of a principal's instructional impact in a school

appears to be affirmative (Notar, 1987). Fullan and Stiegelbauer (1991) assert that if the

principal is not the one leading the school culture and changes within that culture, then

improvement will not happen, an assertion supported repeatedly by principals (Valentine

& Bowman, 1991). As many schools continue their transition to local, that is site-based

or school based management (Glickman, 1992), the dual role of the principal as both

educational leader and manager continues to expand and to evolve. Principals are now

expected to be collaborative leaders who verbalize the school's vision, promote and

protect its values, set a tone of openness, listen well, act decisively, but fairly, and

promote autonomy for both learners and instructors (Anderson & Nicholson, 1987;

Bergman, 1992; Dufour & Eaker, 1987; Grace, Buser, & Stuck, 1987; Lashaway, 1997).

At the same time, principals are to serve as strong, independent leaders, particularly in

the area of instruction. They are to be agents of change, and yet they are to recognize and

applaud what has been accomplished and maintained over time within their schools

(Warner & Stokes, 1987). It is, at best, a situation with the potential to promote serious

role confusion (Dufour, 1999). Since the very attributes that are the hallmarks of

site/school-based management and participatory decision-making, the sharing of

authority and responsibility, may also contribute to a strengthening of the principal's

power base, and the reinforcement of a Machiavellian leadership mode (Boyd & Hord,

1994). Principals are expected to embrace the paradox of these competing expectations

(Deal & Peterson, 1994), to be both forceful leaders and enabling ones (Kaplan, 1981).

Within this environment, the level of expectation for quality principal

performance is high, matched only by the breadth of expectation concerning roles in

which the principal is to excel, and to develop and demonstrate expertise (Ohde &

Murphy, 1993). Of these many roles, two appear to dominate; the principal as

participatory/collaborative manager, and the principal as instructional leader.

Collaborative governance/management is espoused as the professional behavior which

empowers principals to break away from being "super principals," and allows them to

find satisfaction and contentment in their administrative position while still effectively

serving as leaders in their school (Chamley, et al., 1992; Frase & Melton, 1992; Keaster,

1995). A foundation to this behavior is the ability of the principal to effectively utilize

participatory management, especially in strategic planning, goal setting, problem solving,

and instructional planning (Chamley, et al.; Garten & Valentine, 1989; Keaster, 1995;

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Lashaway, 1997; Nadeau & Leighton, 1996; Starratt, 1995; Weiss, 1995). Participatory

management requires that those who will be impacted by a decision have a role in the

decision-making process (Roeper, 1986), that the principal will seek out stakeholder

perceptions and participation not only in the making of decisions or solving of dilemmas,

but also in the identification of needs, issues and concerns, and that the principal will

serve as a facilitator of communication and guardian of the communication process,

especially in times of conflict (Chamley, et al.; Frase & Melton, 1992; Lashaway, 1997;

Roeper, 1986). In the case of the principal of a school with gifted learners, participatory

management must be practiced at a level of high art. The hierarchical model must be

turned on its side and the true nature of the school, as community of learners must be

lived at all levels of daily interaction. (Dart, 1986; Roeper, 1986).

The principal's role as instructional leader is tightly interwoven with his/her role

as collaborative or participatory manager, and each serves as a source of education

production of the principalship. The two specific areas of responsibility, curriculum

coordination and instructional supervision, each of which is perceived by the school

community and community at large as crucial in the success of the school (Murphy,

1990).

As curriculum manager, the principal is required to oversee the process of

determining learning goals for students, and to enable those goals to be met.

Specifically, the principal is expected to monitor eight distinct aspects of the curriculum,

ranging from amount, focus, sequence, breadth, and depth of content to alignment of

curriculum. This must be done both internally and with standards. Additionally, the

principal must insure that students have the opportunity to interact with curricular content

in an orderly, planned fashion (Murphy, 1990). Yet, the curriculum of the school goes beyond its documented learning goals and plans. Eisner (1989) calls this the overt curriculum or hidden curriculum. Eisner defines this curriculum as the implicit or unstated assumptions, values and norms which comprise the school's "world view," and which are conveyed through attitudes espoused. These include punctual completion of assignments, work ethic, adherence to school rules, the actual content taught as opposed to content planned, and content important to the teacher, but not included in official curricular materials. All of these comprise the school's enacted curriculum (Kanpol & Weisz, 1990; McCutcheon, 1982). If the principal is to be the school's educational leader, he/she must be aware of all aspects of the enacted curriculum, must understand the kinds of content and meaning being conveyed to student through it, and must monitor its interface with the overt curriculum, assuring that there is consistency and alignment (Kanpol & Weisz, 1990). As Grace, et al. (1987) found in their study of 13 recognized, outstanding principals, this required that the principal be aware of new developments in curriculum, that he/she participate in regular curriculum reviews with faculty, and that he/she reward faculty efforts to improve curriculum.

Critical to the principal's success in the curricular management role is the nature and quality of his/her performance as the school's instructional leader, for it is in this role that the principal will be able to have the most direct and permanent impact on the school's enacted curriculum. Whether for good or for bad, the principal has traditionally been expected to exercise a leadership function in the area of instructional delivery (Grace, et al., 1987). From the initial hiring of instructional staff through their evaluation, from planning and coordinating in-service opportunities for staff to

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brainstorming and modeling new instructional methodologies with them, the principal should be actively involved in assuring that effective facilitation of learning occurs within the school (Heck, Larsen, & Marcoulides, 1990). The principal is expected to empower teachers (Dufour & Eaker, 1987), to establish high expectations concerning instruction (Frase & Melton, 1992), to involve faculty in development of common procedures for moving toward the school's vision (Garten & Valentine, 1989), to help teachers to plan and to value planning (Juarez, 1992), to stress effective and efficacious elements in facilitating learning (Hudgins & Cone, 1992), to serve as instructional coach (Olthoff, 1992), to provide a sustained, coherent, structure program of professional development for teachers (Niece, 1989; Riggs & Serafin, 1998), and to evaluate instructional planning and delivery in a fair and equitable fashion (Gillat & Sulzer-Azaroff, 1994; Notar, 1987). In addition to these duties, the principal is also relied upon to protect instructional time, to keep adequate supplies of instructional materials available, and to set the tone for a school culture which provides a safe and orderly work environment, strong faculty collaboration and cooperation, and opportunities for meaningful interaction among students (Notar, 1987). Surely, both the scope and the level of expectations placed upon the principal in the area of instructional leadership affirm that he/she is indeed capable of impacting educational practice, and of initiating and supporting appropriate services for all learners.

Principals and Gifted Programming

In a study of more than 300 Texas principals, Parke (1989) discovered that there was a widespread agreement with statements indicating that students with high ability

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need little or no additional assistance that acceleration of the gifted is harmful, that differentiated services for the students with high ability are elitist, and that all students are gifted in some way. Most held the belief that programs which are good for the students with high ability are good for all learners. Ten years earlier, a study by Mills & Berry (1979) of 857 decision-makers related to programs for the students with high ability revealed that these same beliefs were widely thought true by educators as well as members of communities. In fact their study demonstrated that typically, only parents and teachers of the students with high ability held positive views of specialized services for those students, and that they were often frustrated in attempts to convince principals and curriculum specialists of the importance of, and need for, such services and programs, a sentiment echoed years later by Treffinger (1991). Gallagher (1991) concurred, and added that even some of the educational reforms being espoused are highly indicative of what he calls " our reluctance to be excellent" (p. 13), and lead to promotion of programs which are at best neutral, and at worst adversarial, toward the needs of the students with high ability.

On the other hand, as early as 1963, researchers such as Wiener & O'Shea, who, after surveying more than 1,670 university faculty, principals, teachers, and graduate students, found that the more one knew about students with high ability and their needs, the more one was disposed to look favorably upon differentiated services for those students, have been recommending that there be more education about the students with high ability and their needs. Nicely, Small, & Furman (1981) reported that, of 145 teachers of students with high ability involved in pull-out programs, as many as 36 percent perceived these services as intrusive and making their jobs more difficult. They

encouraged principals to develop programs to educate their teachers concerning the need for, and value of, such services, a recommendation also arrived at by Cavin (1980) in her study of more than 225 administrators, teachers, and parents.

However, perhaps nowhere does the connection between education about the students of high ability reveal itself than in Rudnitski's (1994) study of 54 graduate fellows who participated in the Graduate Leadership Education Project. When surveyed, 38 former fellows (1977-1981) responded. Of these, 34 had earned doctoral degrees and the remainder had earned a master's degree in a program which not only exposed them to extensive study and research in determining and meeting the needs of the students with high ability, but which instructed them in a fashion appropriate for students with high ability. Virtually all were, at the time of the study, actively involved in gifted education and advocacy at the local, state, and national levels, serving as administrators and curriculum specialists, programs coordinators, advocacy group leaders, and as consultants to the courts and legislature. It is clearly apparent that the more a principal knows about the needs of the students with high ability, the more he or she is inclined to support instructional services and programs differentiated to meet their needs (Rudnitski, 1993).

Heck, et al. (1990) sought to test a theoretical, causal model that measured the impact of principals' behaviors, rooted in prior knowledge and experience, on student achievement. Their surveys of 118 principals and six each of their teachers clearly revealed a direct, causal connection between the attitudes and behaviors of the principal and the academic performance of his or her students.

A similar study by Gillat & Sulzer-Azzaroff (1994) focused on the effects of the principal's interaction with staff on student performance. They concluded that active

involvement; interest and positive disposition of the principal caused an increase in teachers' rates of student praise, feedback, and goal setting, which in turn, promoted a significant increase in the quality of student performance. This finding was supported by Boyd & Hord's (1994) study of the principal's sense of purpose/direction and interaction with staff on school culture. Their findings, based on interviews with principals, all their teachers, office staff, selected parents and members of the community, indicated that principals can shape, and even re-invent, school culture, and its consequent manifestation in academic emphases and programs.

Further support for the assertion that the principal's attitude and predispositions, as well as knowledge, have a direct affect on program support and development come from the study of Niece (1989). Niece set out to determine if there was a commonality among past influences upon, and current sources of advice and information utilized by, successful instructional leaders. Through qualitative analysis, he was able to determine that principals who function successfully as educational leaders and trainers of educational leaders share common characteristics, including significant, positive, past educational experiences and training, and strong, positive dispositions toward the training of subordinates as instructional leaders. As such, their prior knowledge and current attitudes/predispositions played a critical role in the development of instructional programming.

Summary

A study of the related literature indicates that there is abundant research on middle school education. In addition, gifted education models, though not related to any

particular grade configuration, do exist. In terms of delivery methods, there are extensive literature and research relating to instructional methods themselves but none pertaining to the middle school.

Tomlinson (1996b) emphasizes that programming for students with high ability can be a part of the middle school concept. Coleman & Gallagher's (1992) national survey of middle school educators of the students with high ability found that agreement exists between middle school and educators of the students with high ability in that the regular curriculum needs to be more challenging for the students with high ability, teachers need to have more knowledge and training on meeting the needs of the students with high ability, and many of the opportunities offered to the students with high ability would benefit all students in middle school.

In the analysis of related literature on the instructional needs of middle school students with high ability, the researcher reviewed studies, models, and teaching strategies as each of these relates to curriculum, program, and instructional needs. It was found that differentiated instructional strategies are essential in meeting the educational needs of middle school students with high ability. It was further determined that failure to meet these needs could lead to a pattern of underachievement. Differentiation can occur in the form of curriculum model, instructional strategies and/or program design, and must be based on the needs of middle school students with high ability of the community.

Research has repeatedly supported the necessity of specialized educational services and programs for students with high ability. The availability and quality of those services continues to vary dramatically from place to place and time to time. In public

school districts, the decisions concerning the nature, scope, and funding of gifted programming is often made at the district level. The actual implementation of such programming is greatly impacted by decisions made at the most basic level, in the local school. Such decisions, including those of material, facility space, and even, to a degree, personnel allocation, most often fall within the umbrella of responsibilities of the school's principal, and thus are significantly impacted by his/her perception of what is necessary and what he or she can do to meet that perceived need.

Dettmer (1986) suggested that gifted program professional development for principals can promote a wide range of participation in personalized instructional strategies that move middle schools beyond awareness and acquiescence toward real change, thus influencing ever widening ranges of student ability and need. A comprehensive "umbrellas" of gifted education in-service and professional development would be a natural tool for initiating an overarching climate of educational progress to more effectively nurture all students potential.

CHAPTER 3

METHODOLOGY

Introduction and Review of the Study

Historically, tension has existed between gifted education and middle school

education (Tomlinson, 1992), leaving some advocates of each educational practice

suspicious of the other, and leaving middle school students who are advanced in one or

more dimensions of learning in a sort of educational no-man's-land. While some

legitimate areas of disagreement are likely to persist, there are enough areas of shared

belief to bridge the practice between gifted education and middle school education.

For much of its 30-year history, middle school education has attended more to

issues such as student affect, scheduling, de-tracking, teaming, and school climate than to

what constitutes effective and appropriate curricula in middle school classes (Van Tassel-

Baska, 1994). Educators of the students with high ability, who place strong value on

challenging opportunities for advanced learners in their areas of strength, have been

concerned about middle level education, including a basic skills approach to instruction.

On the other hand, middle school educators argue that what has been called "gifted

education", such as enrichment, high level thinking, problem solving, is good education

for all learners, and should not be reserved for any single group of middle school

students. They believe that energies of educators should be focused on establishing that

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sort of "good education" in heterogeneous classrooms and that the proliferation of such classrooms would serve all middle school students well.

The general tension existing between gifted education and middle school education served as the backdrop of this research. The objective of this study was to determine the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. In addition, the researcher examined principals' and teachers' perceptions of principal practices related to meeting the academic needs of students with high ability in middle school.

To carry out this descriptive study, both quantitative (mailed questionnaire) and qualitative (telephone interview) analysis were employed (Creswell, 1994). Creswell discussed successful combinations of survey research and qualitative procedures. Creswell and Greene, Carocelli, and Graham (1989) suggested that triangulation was an important reason to combine qualitative and quantitative analysis. Additionally, these researchers also purported that combined methodology may allow different aspects of a phenomena to emerge, one method could be used to inform the other, and a mixed design adds scope and breadth to the study.

The major data collection strategies used in triangulation employed in this research were surveys and interviews. Surveys provided the researcher with participants' perceptions on numerous issues and the intensity of their feelings relating to the major research questions. Interviews provided two-way communication. The interviewer and interviewees were able to share information in a more conversational tone. The

respondents were given the opportunity to steer the conversation to the topics they deemed important.

As previously stated, the combination of methodologies designed to study the same phenomenon has been called triangulation (Creswell, 1994; Gall, Borg, & Gall, 1996; McMillan & Schumacher, 1984). This is the process of using multiple data-collection methods, data sources, and analysis to check the validity of the findings (p. 574). Gall, et al. reported that triangulation helps eliminate biases that might result from relying exclusively on any one data collection technique. McMillan and Schumacher further added that triangulation involves different types of data to describe and analyze a phenomenon.

In Chapter three, the researcher described the procedures and constructs utilized to address the problem statement identified in chapter one. Triangulation of the data was achieved by using both quantitative and qualitative analysis for collecting data germane to this study. There was a mailed survey questionnaire to middle school principals and teachers in the state of Nevada and semi-structured interviews with selected principals and teachers.

Subtopics discussed in these sections included population description, instrumentation, data collection, analysis of data, restatement of the research problem, and research questions.

Statement of the Problem

The effect of the middle school movement on middle school students with high ability has been a source of debate between advocates of gifted education and middle

school proponents (Davis & Rimm, 1998). Therefore in this study, the researcher sought to describe the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings.

<center>Purpose of the Study</center>

The National Middle School Association (NMSA) and The National Association for Gifted Children (NAGC) have issued a joint position statement and a call for action to meet the needs of high ability and high potential learners between 10 and 15 years of age (NAGC, 2004).

The two organizations maintain that it is paramount that gifted education emphasizes instructional methods that challenge students with high ability. Through completing this study, the researcher study identified instructional strategies encouraged by principals who serve students with high ability in middle schools in the state of Nevada. This research serves as a resource for middle school principals who work with a population of students with high ability in their buildings.

The purpose of this study was to determine the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability. Archambault, et al. (1993) reported that nearly all middle school students with high ability in this country spend most of their school time with teachers who are not certified in gifted education and who are not aware of how to successfully provide strategies for students identified as gifted. These situations strongly suggested that educators in the field of gifted education assist middle school teachers with instructional strategies for middle school students with high ability.

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Research Questions

The study was guided by and attempted to answer the following questions:

1. To what extent do middle school principals perceive that they are encouraging particular research-based practices relevant to teaching students with high ability in their buildings?

2. To what extent do middle school teachers perceive that the principal of their building is encouraging them to employ specific instructional strategies to teach the students with high ability in their classrooms?

3. How do the perceptions of middle school principals and teachers compare regarding the extent to which research-based instructional practices are being employed with middle school students with high ability?

Instrumentation

A survey is a frequently used tool in the collection of data about characteristics, experiences, and opinions or participants in order to generalize the findings to a population that the sample is intended to represent. Surveys can be an effective means to gather information on a variety of topics of interest. The use of surveys in educational research is effective when it is impossible to directly observe the participants in the study (Gall, et al., 1996). The most common type of survey, the questionnaire, is normally mailed to a sample of individuals who record their responses, then mail back the questionnaire to the researcher. Survey research methods are often used to collect descriptive data that are quantitative (Crowl, 1996).

Questionnaires and interviews are used extensively in educational research to collect information that is not directly observable (Gall, et al., 1996, p. 288). Questionnaires can be used to learn about opinions, activities, and endeavors of the respondents (Johnson, 1977; McMillan & Schumacher, 1997). Interviews and questionnaires can also be used to inquire about feelings, motivations, attitudes, and experiences of individuals. In fact, a wide range of educational problems can be investigated with questionnaires and interviews (Gall, et al.).

For this study, a questionnaire was created consisting of seven demographic questions and 29 Likert-type scale items. The questions specifically related to the extent middle school principals are encouraging their teachers to employ instructional strategies for their students with high ability. One questionnaire was administered to each of the 129 principals used in the study. Each principal was asked to select three teachers who, in turn, completed a teacher questionnaire. The researcher asked the principals to choose teachers serving in a leadership role in their building such as a department chair or team leader. Both questionnaires contained parallel items asking principals and teachers to answer the same questions pertaining to: 1) research based gifted instructional strategies and 2) instructional practices of middle school principals. A survey question matrix was developed to link each questionnaire item to an individual practice relevant to delivery of instruction, development of student thinking skills, and instructional planning (See Appendix I).

Semi-structured telephone interviews were conducted in addition to the mailed questionnaires as a secondary means of collecting teachers' and principals' perceptions

(Gall, et al., 1996). An interview protocol was developed and followed to investigate further the research questions of this study.

A panel of experts established the face and content validity of the questionnaire. This panel of experts included Vicki Petzko, from the University of Tennessee, an expert in supervision and professional development; and Jerry Valentine, from the University of Missouri, an expert in middle level leadership. By reviewing their suggestions, the researcher was able to adjust and modify the questionnaire to improve the research tool.

Pilot testing of a questionnaire is essential in the use of survey research before using that questionnaire in a study (Gall, et al., 1996). A pilot test helps to produce a questionnaire that is usable and one that will provide the information the researcher is seeking. Important to a questionnaire used in research is its face and content validity. To that end, Creswell (1994) also added that a pilot study should be used to check on how well design procedures are articulated and to identify any areas where logic and mechanical detail need additional attention (p. 182).

The questionnaire was piloted in three middle schools located in the Clark County School District. The researcher administered the questionnaire to each of the three principal participants and three teacher participants from each school. The principals completed a principal questionnaire and then asked three teachers from their schools to serve in the piloting of the teacher questionnaire. The teachers served in a leadership role at their school such as department chair or team leader. The following steps were taken in piloting the study: (a) telephoning the principals explaining the purpose of the study, and (b) mailing a packet including cover letter with instructions and four titled questionnaires to the sites (one for the principal and three for the teachers the principal selects to

participate). Each questionnaire included an attached blank sheet with instruction to place comments aimed to improve the ease of administration, the format, scaling, and also to eliminate vague questions (Cohen & Manion, 1989; Creswell, 1994; Miller, 1991). Self-administered questionnaires are heavily dependent on the clarity of their language, and pilot testing is a useful method of determining whether people understand the directions and the language of the questions asked (Fink & Kosecoff, 1998).

Piloting the questionnaire was expected to help target a high return rate during the final research, as it would allow the researcher to readdress unclear questions and reword, when necessary, for greater clarity. Checking the instrument for ease of reading and understandability was done by the researcher to enhance the experience for the study's participants and to encourage them to participate in the study. Gall, et al. (1996) ascertained that because educators are homogenous groups, questionnaires mailed to them generally expect to yield a higher percentage of replies than the general population. These researchers further suggested a return rate of 66% or more from the pilot group. Results that are lower than this rate of return require significant changes before being ready for dissemination among the population at large.

Protocol for a general interview guide approach was reviewed and prepared before actual contact was made with participants. This will involved outlining a set of topics to be explored with each respondent (Gall, et al., 1996). Semi-structured questions where respondents have no choices from which to select an answer were written in anticipation of the telephone interviews. Also, to ensure the interviewer would have greater latitude in asking broad questions in an order deemed appropriate, unstructured

questions will be formulated and approved by the researcher's doctoral advisor prior to making the formal contacts with participants of the study.

The telephone interview was piloted using the principal and selected teachers at the same schools used to pilot the questionnaires. Although, interviews can provide a researcher with valuable data, Henerson, Morris, and Fitz-Gibbon (1987) warned that interviews are also susceptible to bias. The interview, therefore, was piloted to ensure unbiased data would be obtained in the official interviews conducted for this study. The researcher was required to remain alert as to his delivery of questions, his verbal and body language, and also to the tone of the questions asked. Any possibly threatening questions were eliminated or rewritten, as suggested by noted researchers (Fink & Kosecoff, 1998; Gall, et al., 1996; Henerson, et al.). Following the advice of Gall, Borg, and Gall (1996) pilot interviews were recorded to allow the researcher time for reflecting and for gaining insight as to how to develop the greatest rapport and cooperation between he and his participants.

Questions for the interviews were prepared ahead of time, and included a series of semi-structured and unstructured questions, allowing the interviewer the ability to probe more deeply. Open-ended questions were used specifically to obtain additional information that might be useful in this study as suggested by Borg, et al. (1996) and McMillan and Schumacher (1997). In order to gain more insight and delve more deeply into the answers of the respondents in the interview, the researcher sometimes probed by asking for more details, for clarification, or for examples (Merriam, 1998).

Population

The population for this study consisted of 129 principals representing middle schools in the state of Nevada. These schools are located in rural, suburban, and urban areas throughout the state. Three teachers from each of the 129 schools were chosen by their respective principals to participate in the teacher survey. The teachers selected served in leadership positions such as department chair or team leaders in their schools. A sample of three principals and four teachers who agreed to be interviewed after taking the survey was selected to participate in a semi-structured telephone interview.

Design of the Study

This study utilized both quantitative and qualitative analysis to determine the extent principals are encouraging the use of research-based instructional strategies relevant to teaching students with high ability in middle school. In addition, the study examined principals' and teachers' perceptions of principal practices related to the supervision of instruction for middle school students with high ability.

Quantitative data, in terms of descriptive statistics, were employed to gain an understanding of principals' knowledge of research-based gifted instructional practices. The same quantitative data was used to gain an understanding of teachers' perceptions of principal practices as they relate to supervision of instruction for middle school students with high ability. The researcher employed qualitative data to gain knowledge from a randomly selected group of teachers and principals to further describe phenomena with verbal descriptors. As cited by Creswell (1994), the uses of both types of data were used to strengthen the study.

There are several advantages that result from combining quantitative and

qualitative analysis. Complementary phenomena may emerge. One method informs the

other, and mixed methods add scope and breadth to a study (Creswell, 1994; Gall, et al.,

1996). Triangulation helped to eliminate biases that might have resulted from relying

exclusively on any one data-collection method. Exclusive reliance on any one method

may bias or distort the researcher's picture of a particular piece of reality he seeks to

study (Creswell; Gall, et al.).

The researcher's quantitative method of data collection used a researcher-

developed questionnaire that employed a Likert-type scale to obtain information on the

perception of middle school principals and the extent to which they are encouraging their

teachers in the use of research-based instructional strategies for teaching their students

with high ability. The researcher also used that same quantitative method of data

collection to gain an understanding of teachers' perceptions of the practices of their

principals in the area of gifted instructional strategies. Crowl (1996) and Cohen and

Manion (1989) have stated that surveys are used extensively in educational research to

collect information that is not directly observable. From this type of instrumentation, the

researcher was able to learn a great deal from the participants chosen for the study

without having to be directly involved in field observations. Thus, due to the

geographical distribution of the participants of this study, a questionnaire was deemed

most appropriate. In addition, questionnaires secure data at a minimum of time and

expense (McMillan & Schumacher, 1997; Miller, 1991) without compromising quality in

the research design.

The researcher developed the questionnaire used in this study. Likert-type questions in the questionnaire addressed the perception of middle school principals and teachers as to the extent the principals are encouraging teachers to employ gifted instructional strategies in their middle school classrooms. Questions for the questionnaire were designed from a review of related literature.

Interviews based on responses from the mailed questionnaires were also conducted to collect data by randomly selecting from those participants who volunteered to participate in the last phase of data collection. Merriam (1998) suggested that all forms of qualitative research provide data collection when behaviors cannot be observed (p. 72). Merriam further noted that interviewing is necessary to describe past events that are no longer possible to replicate. Furthermore, interviewing can be used to collect data from a large number of people representing a broad range of ideas (Merriam, 1998; Miller, 1991).

Gall, et al. (1996) outlined three basic approaches to collecting qualitative data through open-ended interviews: the informal conversational interview, the general interview guide approach, and the standardized open-ended interview. In this study, the researcher included interviews with follow-up questions that were created from the review of the related literature because distance prohibited the researcher to personally observe participants in their working environment.

Procedure for Collecting Data

Approval and permission for the collection of data was obtained by the University of Nevada, Las Vegas to conduct research with human subjects. A copy of this letter is on file at the University of Nevada, Las Vegas.

The researcher-developed questionnaire was used to measure middle school principals' and teachers' responses regarding the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. On this questionnaire, item responses ranged as follows: 1) Not at all; 2) To a slight extent; 3) To some extent; and 4) To a great extent. Participants were instructed to choose the number (1-4) that most accurately described their perceptions for each item at the time of their participation.

Once the questionnaire and semi-structured telephone protocol was finalized, a three-stage process was used in order to collect the data. Specific steps were followed to ensure accuracy of the questionnaire research design. Creswell (1994) identified three necessary steps for conducting a mailed questionnaire: (1) an initial mailing; (2) a second mailing of the complete instrument after two weeks; and (3) a third mailing of a postcard as a reminder to complete and send in the questionnaire (p. 122). The researcher utilized the following steps:

1. Approximately one week prior to mailing the questionnaire, an initial mailing was used to introduce the study and the researcher. This contact served to identify the researcher, purpose of the study, and to request participation (Borg & Gall, 1996, p. 299)

2. The questionnaire was distributed accompanied with a cover letter and a self-addressed stamped envelope. The questionnaire was distributed to all Nevada middle schools during the month of May 2007.

3. A follow-up cover letter and a second questionnaire were distributed approximately three days after the time limit had expired from the first mailing of the questionnaire to non-respondents. The follow-up cover letter included the purpose of the study and the necessity of the respondent's contribution, but with a different approach and emphasis than the original cover letter (Borg & Gall, 1996).

Rea and Parker (1992) suggested, "A response rate of 50 to 60 percent can be considered satisfactory for purposes of analysis and reporting findings" (p. 85). Babbie (1990) agreed that a response rate of at least 50 percent is adequate for data analysis and reporting (p. 162).

The interviews were conducted with three middle school principals in the state of Nevada. Additionally the researcher selected four teachers to be interviewed. Principals and teachers were asked to volunteer to participate in the interviews via the questionnaire. From those who volunteered, a random sample was selected.

Each participating middle school principal and teacher was contacted prior to the interview. Appointments were scheduled with the selected individuals and the researcher. In addition, cover letters and an outline of the interview were faxed to the participants.

Due to the use of open-ended questions, the responses of the participants were taped to ensure accuracy (Fowler, 1998). Fowler stressed, "When an open question is

asked, interviewers are expected to record answers verbatim; that is, exactly in the words that the respondent uses, without paraphrasing, summarizing, or leaving anything out" (p110).

Analysis of Data

The results obtained from the mailed surveys were analyzed using descriptive statistics. Gall, et al. (1996) stated that research in its most basic form involves the description of natural or manufactured phenomena (p. 374). These authors stated that descriptive research is the basis for many future discoveries. Descriptive research is a type of quantitative research that involves making careful descriptions of educational phenomena. To describe the sample as a whole, a researcher will define variables, measure them, and for each measure compute descriptive statistics.

Descriptive statistics are measures of central tendency such as mean, median, mode, and measures of variability such as standard deviation, variance, and range (Gall, et al., 1996; Johnson, 1977; McMillan & Schumacher, 1984). Descriptive research often involves reporting the characteristics of one sample at one point in time. The values of mean, median mode, and standard deviation will be made from each questionnaire item. A frequency distribution was made for each questionnaire item showing how frequently each variable occurred among measured observations. From the frequency distributions, percentages were computed and displayed, that indicate the number of respondents who marked a particular category in relationship to the total number of respondents (Orlich, 1974).

According to Orlich (1974), the reporting of percentages and means are adequate analytical methods, with the use of computed means from Likert-type responses being most useful to researchers (p. 144). The same Likert scale for each questionnaire item will allow for the computation of means.

Collected data from gifted education principal's survey and teachers' survey was coded and entered into the statistical program, SPSS. Each respondent was assigned an identification code to protect privacy and to identify the respondent easily (Galfo, 1983; Gall, et al., 1996). Item responses were coded for each questionnaire item. Once the data from the mailed surveys were coded and entered into the program, descriptive statistics (frequency, distribution, percentages, mean, median, mode, and standard deviation) were computed, describing the population's responses (Gall, et al.).

Continuous data checks were done to ensure accuracy of data entry and data analysis. Data displays were visibly inspected for input errors. After waiting a period of time, the analysis results were checked, recalculated, and re-examined (Fink & Kosecoff, 1998: Gall, et al., 1996). Additionally, every attempt will be made to remain objective and unbiased by including frequent review of the study's methods by other researchers and checking omissions or unconscious biases (McMillan & Schumacher, 1997).

Interviews

Each participant interview was taped and transcribed to preserve the obtained data (Merriam, 1998). The interview discussions were analyzed to determine themes, factors, and characteristics (Merriam; Spradley, 1980).

The interviews involved a series of structured questions followed by probing open-ended questions to obtain additional information (Gall, et al., 1996). Merriam (1998) stated that probes are questions that follow up something already asked. A list of possible probing questions was developed ahead of time. Although a list of possible probing questions was developed, it was not possible to specify these ahead of time because probing questions are dependent on how the respondent answered the lead question (Merriam, p. 80). Those questions that provide ambiguous results or show statistical significance were used to guide the interview process. This allowed the researcher to focus on areas of strengths and weaknesses in relation to the survey (Gall, et al.). Borg and Gall (1989) contended that the interview permits you to follow-up leads and thus obtain more data, greater clarity, and much greater depth than the other methods of collecting research data. (p. 289). Merriam further implied that probing can come in the form of asking for more details, for clarification, or for examples.

Each interview tape was clearly labeled and an interviewer's journal was kept to document interviews and all contacts with respondents. Names were not used, but letters were be assigned to ensure privacy (Gall, et al., 1996). Creswell (1994) suggested that data collection involves: a) setting boundaries for study; b) collecting data by interviews; and c) establishing interview protocol (p. 148). Data organizing was done as Creswell (1994) described as an advance protocol for data entry. This protocol was prepared in advance to record all data for analysis. Interviews were quickly transcribed after the interview's completion (Gall, et al.; Johnson, 1977).

Data analysis consisted of emergent categories, themes, or patterns collected from the interview process. (Creswell, 1994; Spradley, 1980). These categories included the

principals' perceptions of their role in encouraging research based instructional strategies relevant to students with high ability and the teachers' perceptions.

Significance of the Study

Students in middle school identified as gifted need to be challenged to maximize their talents during the middle school years. Principals must encourage teachers to use differentiated instructional strategies, which provide opportunities for students with high ability to excel. However, research indicates that most middle school teachers are unaware of how to differentiate instruction for students with high ability (Davis & Rimm, 1998).

The premise of the study was based on the belief that middle school principals and teachers must be informed about differentiated instructional strategies that are used to teach students with high ability. Providing middle school personnel with this information was intended to assist them in understanding the special learning needs of this population of students. It was also intended to allow them to employ instructional methods at their schools that provide challenges to a group that is often unchallenged. In brief, students with high ability need to be provided the opportunity to work at their ability level.

Davis and Rimm (1998) state, "To ignore the needs of the gifted students places them at risk at becoming underachievers" (p. 9). Silverman (1993) proclaims, "Every gift contains a danger. Whatever gift we have we are compelled to express. And if the expression of that gift is blocked, distorted, or merely allowed to languish, then the gift turns against us, and we suffer" (p. 3). In order to understand the true meaning of giftedness, it is necessary that we separate the concept from achievement. High achievers

are those who are motivated to do well in school. Students that are identified as gifted may be high achievers or they may be high school dropouts. They have learning needs that differ from other students, just as developmentally delayed students have different learning needs. When giftedness is seen as the mirror image of retardation, it becomes clear that we have a responsibility to meet their needs, whether or not they are high achievers (Silverman).

Schools have an enormous impact on the lives of students with high ability. One understanding teacher who took an interest in them has salvaged underachieving students. The investment of time and energy in differentiating the curriculum for students with high ability can inspire them to have higher aspirations, to win scholarships, to choose demanding careers, and to use their gifts for the betterment of society (Silverman, 1993).

Delimitations & Limitations

Borg and Gall (1989) stated that the "weaknesses in education research can be attributed to the inadequacies of our measures" (p. 183). Miller (1991) reported that there are limitations associated with mailed survey techniques. These include:

1. Response rates to most questionnaires do not generally exceed 50% when conducted by private and a relatively unskilled person. Intensive follow-up efforts are required.

2. Those who answer the questionnaires may differ slightly from non-respondents, thereby biasing the sample.

3. Non-respondents become a collection of individuals about whom virtually nothing is known (p. 141).

Isaac and Michael (1989) further stated the limitations of survey methodology by stating the following:

1. Questionnaires only tap respondents who are accessible and cooperative.

2. Questionnaires often make the respondents feel special or unnatural thereby producing responses that are artificial.

3. Questionnaires arouse "response sets" that are prone to agree with positive statements or questions.

4. Questionnaires are vulnerable to over-rater or under-rater bias causing some respondents to give consistently high or low ratings (p. 128).

The interview also has limitations as a research tool (Borg & Gall, 1989). Henerson, et al. (1987) implied that the oral responses given in interviews are time-consuming. These authors also indicated that the interviewer might unduly influence the respondent. The respondent may become worried about why they are being questioned, what they are expected to say, and how their responses will be interpreted (p.26).

Although the interview will be arranged around the respondent's indicated schedule, Miller (1991) suggested that a phone-interview could catch an individual in another activity. These activities could possibly distract the respondent or cause feelings directed toward the research such as frustration, anxiety, and hostility. These feelings may interfere with the interview.

"The reliability of the educational measures is dependent on the level of internal consistency or stability of the measuring device over time" (Borg & Gall, 1989, p. 257). The reliability of a survey questionnaire makes assumptions that difference in answers stem from differences among respondents rather than differences in stimuli to which

respondents are subjected (Fowler, 1988). Thus the wording of a questionnaire needs to be clearly understandable and unambiguous.

The researcher is another added limitation to the study. Gall, et al. (1996) discussed that the researcher has an emotional stake in the outcome of the research, which may make the individual susceptible to bias. These biases can be manifested in many different ways such as making errors in sampling, selecting measures inappropriately, or scoring responses of the subjects incorrectly. Every attempt was made to remain objective and unbiased by including frequent review of the study's methods by other researchers and checking for omissions to unconscious biases (Gall, et al.). The generalizability of this study was limited to principals at middle schools (grades 6-8) in the state of Nevada.

Besides the above mentioned limitations, this study also has at least four delimiting factors:

1. This study was not designed to determine which of several identified instructional strategies supported by Nevada principals at their schools are most effective, for example, which methods should be used to help improve achievement test scores.

2. This study was not designed to find out which of the various possible instructional strategies are most preferred by Nevada educators serving gifted students at the middle level.

3. This study was not designed to determine which of the various instructional methods supported by Nevada educators serving gifted students at the middle level is the most educationally appropriate.

4. This study only took into account middle school principals in the state of Nevada.

Summary

For the purposes of this study, the researcher investigated the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. The purpose of this study was not be to evaluate which instructional strategy is the best, neither was it to compare one with the other. The purpose of this research was not to determine which instructional strategies are most preferred by principals but to review principals' knowledge of instructional strategies used to teach middle school students with high ability in the state of Nevada.

The research design chosen for this study was a mixed method. The research was conducted in the state of Nevada. One hundred twenty nine principals participated in the study. Data collection strategies employed in this research were surveys and interviews. Data was coded to maintain confidentially, then presented using tables and narration.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF THE DATA

Introduction

The U.S Department of Education's (1993) release of National Excellence: A

Case for Developing America's Talent provided the first update regarding the status of

the education of students identified as gifted and talented in over 20 years. The report

highlighted positive changes in public awareness; substantial increases in the number of

programs for students with high ability; and the development of model programs to raise

expectations for all students. However, the report also described the "quiet crisis" that

continues to prevent students with high ability from reaching their potential. The authors

of the report concluded:

> In spite of many efforts to improve the educational climate for students with high
>
> ability, much still needs to be done to ensure that all students are provided with
>
> appropriate educational opportunities that will challenge them to meet their
>
> realized potentials (p. 28).

More recently, an increasing amount of attention and scrutiny of the instructional

practices of teachers and principals in our public schools has been brought to the

forefront with the passage of Public Law 107-110, *No Child Left Behind Act of 2001*

(NCLB, 2001). Today, principals are being monitored even more closely as they attempt

to lead their schools to meet the challenging standards of this federal legislation.

Although everyone from state departments of education to local education agencies to classroom teachers assume a portion of the responsibility for the assurance of a quality education in each individual school, much of the burden of ensuring students receive a quality education is still going to be on the shoulders of the site principal. It is the principal who has always been responsible for hiring, supervising, and organizing of teachers (Wiles & Bondi, 1996). The principal, then, seen as the instructional leader of the school site, which is today viewed by much of the research as the unit responsible for the initiation of change, has a tremendous responsibility to deliver a quality educational program (Hallinger, 1992).

Hallinger and Heck (1996) concluded that although results continue to be open to debate from research on the direct effects of the role of the principal on student achievement, there is little disagreement among researchers concerning the belief that principals do have an impact on the lives of teachers and students. Furthermore, researchers have concluded that principals do have a significant effect on student outcomes, even if in an indirect manner (Hallinger & Heck; Heck, et al., 1990). Additionally, other researchers have also concluded that principals who aim toward influencing internal school processes that are directly linked to student learning are exercising principal leadership that makes a difference in student achievement, including students with high ability (Heck, et al.; Leithwood & Jantzi, 2000; Quinn, 2002).

The purpose of this study was to determine the extent to which middle school principals are encouraging particular research-based practices relevant to teaching students with high ability in their buildings. In addition, the researcher sought to examine

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and compare principals' and teachers' perceptions of principal practices related to meeting the academic needs of students with high ability in middle school.

The study was guided by and attempted to answer the following questions:

1. To what extent do middle school principals perceive that they are encouraging particular research-based instructional practices relevant to teaching students with high ability in their buildings?

2. To what extent do middle school teachers perceive that the principal of their building is encouraging them to employ specific research-based instructional practices to teach students with high ability in their classrooms?

3. How do the perceptions of middle school principals and teachers compare regarding the extent to which principals are encouraging employment of research-based instructional practices with middle school students with high ability?

Research Methodology

For this study, a questionnaire was created consisting of seven demographic questions and 29 Likert-type scale items (See Appendix II, Demographic Information; Appendix III, Principal Questionnaire; and Appendix IV, Teacher Questionnaire). Of the 29 possible Likert-type scale items in each questionnaire, 17 questions related to the instructional practices of principals relevant to all students, including those with high ability in their buildings and 12 questions specifically related to students with high ability.

In addition to the mailed questionnaire, a semi-structured telephone interview was conducted as a secondary means of collecting principals' and teachers' perceptions of principal practices related to instructional strategies for students with high ability. An interview protocol was developed to probe more deeply into the answers of the participants (See Appendix V). Telephone interviews were conducted after randomly selecting from a list of principal and teacher volunteers who indicated a willingness to participate in such an interview. Telephone interviews averaged 30 minutes in length. The data obtained from the mailed questionnaire and the semi-structured telephone interviews were used to triangulate the collected data, a practice that provides results that are more reliable (Creswell, 1994). The combined use of a questionnaire and telephone interview resulted in stronger findings and a clearer understanding of the instructional practices that middle school principals are encouraging relevant to students with high ability in their buildings.

Population

The population for this study consisted of 129 principals representing middle schools in the state of Nevada. These schools are located in rural, suburban, and urban areas throughout the state. Three teachers from each of the 129 schools were chosen by their respective principals to participate in the teacher survey. The teachers selected served in leadership positions such as department chair or team leaders in their schools. A sample of 3 principals and four teachers who agreed to be interviewed after taking the survey was selected to participate in a semi-structured telephone interview.

Questionnaire

A questionnaire packet was mailed to the 129 middle school principals in the state of Nevada. Each of the 129 principals was mailed a questionnaire packet that included introduction letters; one principal questionnaire; three teacher questionnaires, and stamped, addressed return envelopes for each participant. Principals from each individual school were asked to complete a principal questionnaire and distribute the teacher questionnaires to three teachers on their staff serving in a leadership role. The first mailing resulted in 62 school packets returned. A total of 62 principals and 186 teachers responded for an initial return rate of 48%.

In order to improve the return rate, a reminder postcard was sent after the first mailing to those principals who had not responded. In addition, a second packet was sent to those principals. The packets once again contained a principal questionnaire; teacher questionnaires; stamped, addressed return envelopes for each participant; and a reminder letter for each participant to complete the enclosed questionnaire and send his/her responses to the researcher.

The second mailing resulted in responses from an additional 17 schools for a total of 79 schools, with a total return rate of 61%. Seventeen more principals and 51 more teachers responded to the second mailing, improving the total return rate to 79 principals and 237 teachers. The questionnaire took approximately 20 minutes for each respondent to complete, according to the pilot responses. Item responses for each question ranged from (1) No extent to (4) Great extent. The instructions outlined on the questionnaire directed respondents to choose the number (1-4) that mostly described their perceptions for each item.

Principal and Teacher Interview

Principal and teacher interviews were conducted during a two-week period following the return of the second questionnaire packet. A total of 22.8% (18/79) of principals and 16% (38/237) of teachers indicated at the bottom of their completed questionnaire that they would volunteer for a telephone interview. Three principals and four teachers were randomly selected from those lists of volunteers.

On the questionnaire sent to each participant, the participants were asked to provide a number and a time most convenient for a telephone interview. A semi-structured interview was used consisting of nine questions that revolved around the three research questions (See Appendix V). Each interview lasted between 25-30 minutes and was tape-recorded and transcribed with the knowledge and permission of each participant.

The following section represents the results of both the mailed questionnaire and the telephone interview data. Both sets of data were presented simultaneously to support the findings of the entire study.

Description of Principals and Teachers

Principals and teachers were asked a total of six demographic questions to better understand the population under study. The respondents provided information about the following: (a) gender; (b) ethnicity; (c) years of experience in education; (d) current assignment; (e) highest degree earned; and (f) training in teaching of students identified as gifted and talented at the middle level. Demographic information was collected as a qualitative component of the study to illustrate in more detail the examined population.

Of the 79 principals who responded, 60.8% were females (48/79) and 39.2% were males (31/79). Of the 237 teachers who answered the questions on gender, 64.6% (153/237) were females and 35.4% (84/237) were males.

Additionally, a total of 316 participants (79 principals and 237 teachers) answered the questions regarding years of experience in education and highest degree earned. Of the 79 principals who responded, 2.5% had 5-10 years of experience in education, 10.1% had 10-15 years of experience in education, and 87.4% had 16 or more years of experience. Of the 237 teachers who responded, 31.2% (74/237) had 1-15 years of experience in education, 32.9% (78/237) had 16-20 years, and 35.9% (85/237) had 21 years or more years of experience in education. Masters degrees were the highest type of degree earned by 92.4% of the principals who responded to the question. A total of 26.2% of all teachers earned a Bachelor's degree as their highest degree, while 68.7% of the teachers earned a Master's degree. Only 3.8% of all teachers indicated they held education specialists degrees. Finally, only 1.3% of all teachers held a Doctorate degree; however, 7.6% of all administrators indicated that was the highest degree they held. Table 1 and Table 2 contain the data taken from the survey responses.

Table 1

Years of Experience: Principals and Teachers

Years of experience	Principals (N=79)	Teachers (N=237)
1 – 15 years	12.7%	31.2%
16 – 20 years	19.0%	32.9%
21+ years	68.3%	35.9%

Table 2

Degrees Earned: Principals and Teachers

Degrees earned	Principals (N=79)	Teachers (N=237)
Bachelors	0.0%	26.2%
Masters	92.4%	68.7%
Doctorate	7.6%	1.3%
Specialist	0.0%	3.8%

Research Questions

Research Question One

Research question one sought to find the extent middle school principals perceive that they are encouraging particular research-based practices relevant to teaching students with high abilities in their buildings. The first step was to look at participant responses to the 29 items that reflected the research relevant to teaching students with high ability. The second step was to look at participant responses to a semi-structured interview.

In analyzing the data, a low mean score indicated that principals perceived that they did not support particular research-based practices relevant to teaching students with high ability in their building. Conversely, a high mean score indicated that principals perceived that they did support research-based practices relevant to teaching students with high ability. Low mean scores were determined to be those scores that ranged from 1.00 to 2.50, and high mean scores were determined to be those that ranged from 2.50 to 4.00.

According to the principals' responses to the questions pertaining to research-based practices, the practice of providing students opportunities to solve problems (items

6) was encouraged by the highest percentage of principals. According to the principals surveyed, a total of 82.3% of all principals (with a mean of 3.82) said they encouraged this practice to a great extent. Also encouraged by a high percentage of principals was the practice of promoting high-order thinking skills (item 2). Of all principals surveyed, 71% of them (with a mean of 3.71) said they encouraged this practice to a great extent. On 20 of the 29 items, the mean score was greater than 2.50

An analysis of the data further suggested that principals did not perceive that they encouraged their teachers in the practice of focusing on universal concepts such as systems, structures, and perceptions (item 28). Results of the survey indicated that only 19% of the principals (with a mean score of 1.90) encouraged this practice to some extent or to a high extent. Another practice only encouraged by 27.8% (with a mean score of 2.05) of the principals to some extent or to a high extent was the practice of referring students with high ability to mentoring programs outside the classroom (item 27). On nine of the 29 items, the mean score was below 2.50. Table 3 on the following page displays a summary of the results of the principals' questionnaire.

The responses of the principals selected to be interviewed supported the data gathered through the principals' questionnaire. Two of the principals indicated that they encourage their teachers to utilize numerous differentiated instructional strategies. Principal 1 (P1) mentioned his incorporation of Howard Gardner's Theory of Multiple Intelligences. All three principals made reference to the use of open-ended questions. All of the participants indicated that they encouraged the use of enrichment. Two of the participants also stated they encouraged acceleration and curriculum compacting. Principal 2 (P2) suggests to her teachers that they should view themselves as facilitators

Table 3

Results Summary for Principals' Questionnaire

Questions	All Principals				
	Mean Score	% None	% Slight	% Some	% Great
To what extent do you encourage your teachers to...					
1. Focus on qualify of work rather than quantity?	3.10	0.0	27.8	34.2	11.4
2. Promote high-order thinking skills?	3.71	0.0	0.0	29.1	70.9
3. Teach students to reflect on own thinking process?	3.23	0.0	19.0	39.2	41.8
4. Emphasize in-depth work?	3.18	0.0	22.8	36.7	40.5
5. Use inquiry to investigate real-life problems?	2.85	0.0	35.4	44.3	20.3
6. Provide students opportunities to solve problems?	3.82	0.0	0.0	17.7	82.3
7. Apply cognitive approaches to real situations as opposed to structured exercises?	2.49	15.2	38.0	29.1	17.7
8. Apply affective approaches to real situations as opposed to structured exercises?	2.29	19.0	44.3	25.3	11.4
9. Emphasize creative thinking?	3.53	0.0	12.7	21.5	65.8
10. Emphasize problem solving?	3.76	0.0	0.0	24.1	75.9
11. Emphasize independent study skills?	2.84	0.0	26.6	43.1	25.3
12. Formulate questions to assist students to become efficient in critical thinking?	3.27	0.0	13.9	45.6	40.5
13. Formulate questions to assist students to become efficient with analysis skills?	3.13	0.0	17.7	51.9	30.4
14. Focus on abstract reasoning?	3.03	0.0	30.4	36.7	32.9
15. Focus on critical thinking?	3.23	0.0	15.2	46.8	38.0
16. Focus on accelerated content?	3.10	0.0	20.2	49.4	30.4
17. Seek to meet the affective needs of students?	2.90	0.0	27.8	54.4	17.8
18. Quicken the pace of learning for students with ability?	3.13	0.0	20.3	46.8	32.9
19. Differentiate depth and complexity of subject matter for students with high ability?	3.20	0.0	10.1	59.5	30.4
20. Provide flexible grouping for students with high ability with other students of high ability?	2.32	22.8	34.2	31.6	11.4
21. Accelerate the pace of learning through prescriptive instruction for students with high ability?	2.62	6.3	35.4	48.1	10.2
22. Compact the curriculum for students with high ability to allow them to work only on assignments they have not mastered?	2.48	8.9	45.6	34.2	11.3
23. Provide students with high ability individualized instruction that is geared to meet their specific needs?	2.57	5.1	51.9	24.1	18.9
24. Provide students with high ability individualized instruction that is geared to meet their specific abilities?	2.44	7.6	53.2	26.6	12.6
25. Provide students with high ability individualized instruction that is geared to meet their specific interests?	2.11	19.0	58.2	15.2	7.6
26. Employ self-selected independent study for students with high ability?	2.48	13.9	35.4	39.2	11.5

		Mean Score	% None	% Slight	% Some	% Great
27.	Refer students with high ability to mentoring programs as one means to differentiate outside of the classroom?	2.05	29.1	43.0	21.5	6.4
28.	Focus on universal concepts such as systems, structures, and perceptions?	1.90	34.2	46.8	13.9	5.1
29.	Ensure that the curriculum for students of high ability is differentiated from the standard curriculum?	3.00	0.0	24.1	51.9	24.0

of learning rather than dispensers of knowledge. All three principals interviewed reiterated the importance of incorporating Bloom's Taxonomy for all students, including students with high ability.

All of the principals interviewed believed that students with high ability have very sophisticated learning capabilities and are able to comprehend abstract ideas. They also all agreed that social development of middle school students is essential, but should not take the place of academic challenge. All three principals also agreed that students with high ability in middle school deserve a challenging curriculum. P1 added that students who are not challenged become bored and may exhibit behavioral problems. Principal 3 (P3) suggested that students with high ability are often pressured to conform to the norm stifling their creativity. Two of the principals believed that middle school students with high ability warrant a curriculum that emphasizes academic excellence. P2 believed the more challenging the more the students with high ability appreciate their school experience.

Research Question Two

Research question two sought to determine the extent middle school teachers perceive that the principal of their building is encouraging them to employ specific instructional strategies to teach students with high ability in their classrooms. As with the principals, the first step was to look at participant responses to the 29 items that reflected the research relevant to teaching students with high ability. The second step was to look at participant responses to a semi-structured interview.

Similar to the analysis of the principals' questionnaire, a low mean score indicated that teachers perceived that principals did not support particular research-based practices relevant to teaching students with high ability in their building. Conversely, a high mean score indicated that teachers perceived that principals did support research-based practices relevant to teaching students with high ability. Low mean scores were determined to be those scores that ranged from 1.00 to 2.50, and high mean scores were determined to be those that ranged from 2.50 to 4.00.

According to the teachers' responses to the questions pertaining to research-based practices, the practice of emphasizing problem solving (item 10) was encouraged by the highest percentage of principals. According to the teachers surveyed, a total of 81.9% of all teachers (with a mean of 2.97) said they believed principals encouraged this practice to some extent or to a great extent. Also encouraged by a high percentage of principals was the practice of providing students opportunities to solve problems (item 6). Of all teachers surveyed, 56.1% of them (with a mean of 2.72) said principals encouraged this practice to some extent or to a great extent. On only five of the 29 items was the mean score greater than 2.50

An analysis of the data further suggested that teachers did not perceive that principals encouraged them in the practice of focusing on universal concepts such as systems, structures, and perceptions (item 28). Results of the survey indicated that only 11.8% of the principals (with a mean score of 1.78) encouraged this practice to some extent or to a high extent. According to the teachers surveyed, another practice only encouraged by 21.5% (with a mean score of 1.90) of the principals to some extent or to a high extent was the practice of referring students with high ability to mentoring programs outside the classroom (item 27). On 24 of the 29 items, the mean score was below 2.50. Table 4 on the following page displays a summary of the results of the teachers' questionnaire.

As with the principals, four teachers who volunteered were chosen randomly for a follow up interview. Data gathered through the interview process added depth and richness to the data gathered through the questionnaire. Each of the interviewees was open and candid. All four teachers interviewed admitted to using a number of differentiated strategies. According to the teachers, the principals of the buildings in which the teachers were assigned were neither supportive nor unsupportive of such strategies. In fact, three of the teachers believed that their principals were unaware of their differentiation in the classroom. Two of the teachers made reference to a "choice strategy". One teacher (T1) gave an example of how she utilizes "choice". The teacher explained that she permits students to make critical choices during the learning process. Students form literary circles to decide which books to share with an audience, which passages to discuss, and what should be on a test. A second teacher (T2) described how she employs "choice". She assigns students a topic. The students are responsible for

Table 4

Results Summary for Teachers' Questionnaire

Questions	All Teachers				
	Mean Score	% None	% Slight	% Some	% Great
To what extent does your principal encourage you to...					
1. Focus on qualify of work rather than quantity?	2.01	14.3	73.8	8.0	3.9
2. Promote high-order thinking skills?	2.68	8.9	32.9	39.7	18.6
3. Teach students to reflect on own thinking process?	2.09	18.1	58.2	19.8	3.9
4. Emphasize in-depth work?	2.08	16.5	62.0	18.1	3.4
5. Use inquiry to investigate real-life problems?	2.02	21.5	57.0	19.8	1.7
6. Provide students opportunities to solve problems?	2.72	7.2	36.7	32.9	23.2
7. Apply cognitive approaches to real situations as opposed to structured exercises?	2.14	28.3	41.4	18.1	12.2
8. Apply affective approaches to real situations as opposed to structured exercises?	2.02	32.9	42.6	14.3	10.2
9. Emphasize creative thinking?	2.59	7.2	44.3	31.2	17.3
10. Emphasize problem solving?	2.97	6.3	11.8	60.3	21.6
11. Emphasize independent study skills?	2.36	16.5	47.3	19.8	16.4
12. Formulate questions to assist students to become efficient in critical thinking?	2.57	10.5	41.4	28.7	19.4
13. Formulate questions to assist students to become efficient with analysis skills?	2.35	21.9	36.7	25.7	15.7
14. Focus on abstract reasoning?	2.07	32.1	43.1	11.0	13.8
15. Focus on critical thinking?	2.27	25.3	38.0	21.5	15.2
16. Focus on accelerated content?	2.41	14.8	49.4	16.0	19.8
17. Seek to meet the affective needs of students?	2.30	24.5	30.4	35.9	9.2
18. Quicken the pace of learning for students with ability?	2.4	16.5	38.8	32.9	11.8
19. Differentiate depth and complexity of subject matter for students with high ability?	2.47	5.5	53.2	30.4	10.9
20. Provide flexible grouping for students with high ability with other students of high ability?	2.23	24.1	35.4	34.2	6.3
21. Accelerate the pace of learning through prescriptive instruction for students with high ability?	2.45	8.9	44.7	38.8	7.6
22. Compact the curriculum for students with high ability to allow them to work only on assignments they have not mastered?	2.27	16.0	54.0	18.9	11.1
23. Provide students with high ability individualized instruction that is geared to meet their specific needs?	2.01	20.7	62.0	12.7	4.6
24. Provide students with high ability individualized instruction that is geared to meet their specific abilities?	2.24	13.1	58.6	19.0	9.3
25. Provide students with high ability individualized instruction that is geared to meet their specific interests?	2.04	27.0	46.4	21.9	4.7
26. Employ self-selected independent study for students with high ability?	2.08	24.0	48.1	24.0	3.9

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	Mean Score	% None	% Slight	% Some	% Great
27. Refer students with high ability to mentoring programs as one means to differentiate outside of the classroom?	1.90	37.6	40.9	16.4	5.1
28. Focus on universal concepts such as systems, structures, and perceptions?	1.78	36.3	51.9	8.9	2.9
29. Ensure that the curriculum for students of high ability is differentiated from the standard curriculum?	2.43	24.5	24.0	35.9	15.6

deciding how they will present newly acquired information to their class. Teacher 3 (T3) used games such as "Jeopardy" and "Tic Tac Toe" in the learning process. If a student solved a problem correctly, the teacher awarded points or placed an "X" in the grid. All four teachers felt supported by their principals but maintained that they did not feel any clear direction regarding specific strategies to be employed for the students with high ability in their classrooms.

Interviewees were asked to elaborate on how acceleration and enrichment are used in teaching students with high ability in their classrooms. Three respondents indicated that in math, many of the students with high ability are advanced at least one grade level. For example, eighth grade students are enrolled in Algebra I, traditionally a freshman level course in high school. According to T3, the students with high ability in her classroom complete assignments in half the time of the other students. In reference to enrichment, (T4) used projects to grade students instead of traditional paper and pencil tests. T1 stated that she connected classroom learning with the outside world. T2 encouraged her students with high ability to enter district and state competitions like "Odyssey of the Mind." Teacher 4 (T4) suggested the use of curriculum compacting and open-ended questions as strategies in the classroom. When probed further to find the extent the principal of their building was encouraging them in their practices, all four

teachers reported that they felt supported. However, the instructional strategies that they employed were not something that their principals directly or indirectly encouraged.

All interviewees agreed that social development is essential, but they also agreed that students with high ability should be challenged academically. T4 indicated that middle school students with high ability enjoy assignments that require critical thinking. T3 believed that students with high ability who are not required to maximize their full academic potential are losing out. T2 believed that watering down the curriculum for students with high ability is an injustice. T1 reported that with the pressures associated with test scores, her principal is more concerned with meeting the needs of "non-proficient" students than students with high ability.

Research Question Three

Research question three sought to determine how the perceptions of middle school principals and teachers differ regarding the extent to which principals are encouraging their teachers in the use of specific research-based instructional practices with their students with high ability. The first step was to compare the responses of the principals and teachers on the 29 questionnaire items that reflected the research relevant to teaching students with high ability. The second step was to examine participant responses to the semi-structured interview.

The responses to the 29 questionnaire items are displayed as frequencies. For each of the 29 items, a t-test was completed (p less than .05) comparing all principal responses to all teacher responses. Analysis indicated significant differences in the

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perceptions of participating principals and teachers. Items that were significant were noted and t-test results are found in Appendix VII.

Additionally, for the purpose of outlining in a clear fashion the results of the questions pertaining to the 29 research-based instructional practices, the responses to the items were organized into three areas outlined in the review of literature: instructional planning, delivery of instruction, and developing student thinking skills. Tables 5, 6, and 7 display the results for the items pertaining to the three aforementioned areas. Items 1,4, 16, 19, 21, 22, 23, 24, and 29 pertain to the area of planning instruction. Items 5, 6, 7, 8, 10, 11, 17, 18, 20, 25, 26, 27, and 28 pertain to the area of delivery of instruction. Items 2, 3, 9, 12, 13, 14, and 15 pertain to the area of students' thinking processes and skills.

Instructional Planning

When planning instruction for students with high ability, VanTassel-Baska (1994) stressed the importance of designing curricular issues and themes aimed at addressing major concepts, themes, and ideas that have guided the development of civilization, and that apply not only within specific disciplines, but also across them. While the teachers supported the perception of the principals relative to the extent that they are encouraging certain practices pertaining to instructional planning, statistically, responses on the four of the items indicated a significant difference, as shown in Table 5. Teachers did not support the perception of principals that they are encouraging the following practices: focusing on quality of work rather than quantity; emphasizing in-depth work; focusing on accelerated content; differentiating depth and complexity of subject matter; providing individualized instruction that meet the needs of students' specific needs and abilities;

Table 5

Results Summary for Teacher and Principal Groups
Area of Instructional Planning

Questions	All principals					All teachers				
	Mean Score	% None	% Slight	% Some	% Great	Mean Score	% None	% Slight	% Some	% Great
To what extent does your principal encourage you to...										
#1* Focus on quality of work rather than quantity?	3.10	0.0	27.8	34.2	11.4	2.01	14.3	73.8	8.0	3.9
#4* Emphasize in-depth work?	3.18	0.0	22.8	36.7	40.5	2.08	16.5	62.0	18.1	3.4
#16* Focus on accelerated content?	3.10	0.0	20.2	49.4	30.4	2.41	14.8	49.4	16.0	19.8
#21* Accelerate the pace of learning through prescriptive instruction for students with high ability?	2.62	6.3	35.4	48.1	10.2	2.45	8.9	44.7	38.8	7.6
#22 Compact the curriculum?	2.48	8.9	45.6	34.2	11.3	2.27	16.0	54.0	18.9	11.1
#23* Provide students with high ability individualized instruction that is geared to meet their specific needs?	2.57	5.1	51.9	24.1	18.9	2.01	20.7	62.0	12.7	4.6

Questions	Mean Score	% None	% Slight	% Some	% Great	Mean Score	% None	% Slight	% Some	% Great
#24* Provide students with high ability individualized instruction that is geared to meet their specific abilities?	2.44	7.6	53.2	26.6	12.6	2.24	13.1	58.6	19.0	9.3
#29 Ensure that the curriculum for students of high ability is differentiated from the standard curriculum?	3.00	0.0	24.1	51.9	24.0	2.43	24.5	24.0	35.9	15.6

*p<0.5

and ensuring that the curriculum for students of high ability is differentiated from the standard curriculum. Both groups agreed that principals are not encouraging the practice of individualizing instruction to meet the students' abilities.

Delivery of Instruction

In reference to delivery of instruction to students with high ability, VanTassel-Baska (1994) recommended the use of instructional methodologies such as diagnostic, prescriptive teaching, which not only permit requisite compression and acceleration of learning, but which also encourage progressive growth and development, as well as providing high levels of challenge necessary for sustained engagement. In the area of delivery of instruction, teachers only agreed with the perception of principals on four of the item responses. Nine of the item responses proved to be significantly different. Teachers did not support the perception of principals relative to the extent that they encourage the following practices: using inquiry to investigate real-life problems;

providing students opportunities to solve problems; applying cognitive and affective approaches to real situations as opposed to structured exercises; emphasizing problem solving; emphasizing independent study skills, seeking to meet the affective needs of students; quickening the pace of learning; and employing self-selected independent study for students. The two groups agreed that principals are not encouraging flexible grouping; providing students instruction geared toward their interest; referring students to mentoring programs; and focusing on universal concepts. The data are provided in Table 6.

Developing Student Thinking Skills

As previously stated, students with high ability are able to deal with complex concepts, to readily manipulate ideas, and to find, interact with and solve problems (Gallagher, 1985; Sternberg, 1996). Therefore, appropriately differentiated curriculum for gifted learners provides them with the opportunity to manipulate material at high levels of complexity (VanTassel-Baska, 1994), promotes high-order thinking skills through the use of models, and affords substantive learning through the creation of knowledge and "real-life" application and product corrections (VanTassel-Baska, 1992; VanTassel-Baska, 1994). Teachers did not support the perception of the principals relative to the extent they are encouraging instructional practices in the area of students' thinking processes and skills. These items include: promoting high-order thinking skills; teaching students to reflect on their own thinking process; emphasizing creative thinking; formulating questions to assist students become efficient in critical thinking; formulating

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Table 6

Results Summary for Teacher and Principal Groups
Area of Delivery of Instruction

Questions	All principals					All teachers				
	Mean Score	% None	% Slight	% Some	% Great	Mean Score	% None	% Slight	% Some	% Great
To what extent does your principal encourage you to...										
#5* Use inquiry to investigate real-life problems?	2.85	0.0	35.4	44.3	20.3	2.02	21.5	57.0	19.8	1.7
#6* Provide students opportunities to solve problems?	3.82	0.0	0.0	17.7	82.3	2.72	7.2	36.7	32.9	23.2
#7* Apply cognitive approaches to real situations as opposed to structured exercises?	2.49	15.2	38.0	29.1	17.7	2.14	28.3	41.4	18.1	12.2
#8* Apply affective approaches to real situations as opposed to structured exercises?	2.29	19.0	44.3	25.3	11.4	2.02	32.9	42.6	14.3	10.2
#10* Emphasize problem solving?	3.76	0.0	0.0	24.1	75.9	2.97	6.3	11.8	30.3	21.6
#11* Emphasize independent study skills?	2.84	0.0	26.6	43.1	25.3	2.36	16.5	47.3	19.8	16.4
#17* Seek to meet the affective needs of students?	2.90	0.0	27.8	54.4	17.8	2.30	24.5	30.4	35.9	9.2

Questions	Mean Score	% None	% Slight	% Some	% Great	Mean Score	% None	% Slight	% Some	% Great
#18* Quicken the pace of learning for students with high ability?	3.13	0.0	20.3	46.8	32.9	2.40	16.5	38.8	32.9	11.8
#20 Provide flexible grouping for students with high ability with other students of high ability?	2.32	22.8	34.2	31.6	11.4	2.23	24.1	35.4	34.2	6.3
#25 Provide students with high ability individualized instruction that is geared to meet their specific interests?	2.11	19.0	58.2	15.2	7.6	2.04	27.0	46.4	21.9	4.7
#26* Employ self-selected independent study for students with high ability?	2.48	13.9	35.4	39.2	11.5	2.08	24.0	48.1	24.0	3.9
#27 Refer students with high ability to mentoring programs?	2.05	29.1	43.0	21.5	6.4	1.90	37.6	40.9	16.4	5.1
#28 Focus on universal concepts?	1.90	34.2	46.8	13.9	5.1	1.78	36.3	51.9	8.9	2.9

*$P<0.5$

questions to assist students to become efficient with analysis skills; focusing on abstract

reasoning; and focusing on critical thinking. Table 7 illustrates the results to responses in

the area of students' thinking processes and skills.

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The responses to the semi-structured interviews provided further data demonstrating that the teachers did not support the perceptions of middle school principals regarding the extent to which they are encouraging their teachers in the use of specific research-based instructional practices with their students with high ability. The results of these interviews are described below.

Teachers were asked about their principals' philosophy relevant to classroom instruction for students with high ability. Responses did not vary from teacher to teacher. Most responses indicated a philosophy that focused on an interactive, student-centered approach to learning. The first teacher's response (T1) exemplified the consensus of all four teachers when she said her principal placed an emphasis on student-centered learning. According to T1, the principal's focus was on active participation, students as leaders, and teaching students how to work in groups. This focus was similarly described by at least two of the other teachers interviewed. Three of the four teachers also described an emphasis on the part of their principals on providing opportunities for students across the curriculum. All four teachers stated that the principals strongly urged developing common assessments school-wide. The consensus of the teachers was that although principals encouraged teachers to use research-based strategies in their classrooms, the principals did not specifically encourage practices to meet the needs of high ability students.

Teacher 3 (T3) described her principal's focus as meeting standards and objectives through testing. Teacher 2 (T2) suggested that her principal wanted his teachers to "teach to the standards" and wanted teachers to "find out what students are to be tested on, then create their own assessments to test to those items. Teacher 2 (T2)

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Table 7

Results Summary for Teacher and Principal Groups
Area of Developing Students' Thinking Skills

Questions	All principals					All teachers				
	Mean Score	% None	% Slight	% Some	% Great	Mean Score	% None	% Slight	% Some	% Great
To what extent does your principal encourage you to...										
#2* Promote high-order thinking skills?	3.71	0.0	0.0	29.1	70.9	2.68	8.9	32.9	39.7	18.6
#3* Teach students to reflect on own thinking process?	3.23	0.0	19.0	39.2	41.8	2.09	18.1	58.2	19.8	3.9
#9* Emphasize creative thinking?	3.53	0.0	12.7	21.5	65.8	2.59	7.2	44.3	31.2	17.3
#12* Formulate questions to assist students to become efficient in critical thinking?	3.27	0.0	13.9	45.6	40.5	2.57	10.5	41.4	28.7	19.4
#13* Formulate questions to assist students to become efficient with analysis skills?	3.13	0.0	17.7	51.9	30.4	2.35	21.9	36.7	25.7	15.7
#14* Focus on abstract reasoning?	3.03	0.0	30.4	36.7	32.9	2.07	32.1	43.1	11.0	13.8
#15* Focus on critical thinking	3.23	0.0	15.2	46.8	38.0	2.27	25.3	38.0	21.5	15.2

*$p<0.5$

went on to explain that her principal is more concerned with meeting the needs of non-proficient students than meeting the needs of students with high ability.

When asked to describe the principals' role in encouraging teachers in the use of research-based practices with students with high ability, teachers interviewed did not see their principals' role as a direct one. The teachers noted the areas where their principals seemed to make some difference. Three of the four teachers interviewed noted their principals' role in encouraging the use of research-based strategies came through providing staff with professional development. Teacher 4 (T4) also noted his principal was good at delegating and that through delegation his principal's role in encouraging research-based practices could be felt.

In contrast to teacher responses, all three principals interviewed felt their role in encouraging research-based practices for students with high ability in their buildings was an active one. P1 noted his role in looking at student achievement to determine which students required intervention and which teachers required assistance. P1 also organized teachers to tutor students in need. P2 saw herself as the one taking the lead when it came to organizing staff development and analyzing data. P3 stressed the importance of "being visible in the classroom" and "taking an active role in the instructional process". She gave examples of asking the students questions about their assignments and what they were working on, and looking at student assessments and sample work. She further stated, "If I expect it, I need to inspect for it." All three principals suggested that they encourage teachers to employ research-based strategies for all students, including students with high ability.

The teachers interviewed were divided on the effect principals had on the achievement of students with high ability in their buildings. T1 said, "Teachers have a huge effect." T1 further noted that her principal played and important part by offering support in professional development and materials. T2 believed her principal had a "significant effect" noting her principal was "extremely involved, teaching us to make a difference, helping us to analyze data." T2 could not offer any specific examples of how her principal specifically encouraged the use of research-based strategies geared toward students with high ability besides those offered for the school as a whole.

Regarding instruction for students with high ability, teachers did not always agree on the specific role of their principals. All four teachers cited a variety of roles they thought seemed to be the primary responsibility of their principals. None of the four teachers interviewed cited instruction as the primary focus of their principals, including instruction of students with high ability. T1 saw the role of her principal as "making sure the school runs efficiently and effectively." T2 stated that her principal spent a great deal of time concerned with financial needs of the school and the organizational needs of the office. Relevant to instruction, her principal provided faculty opportunities to become better at teaching. Additionally, T3 viewed her principal's primary role as a "managerial one," naming what the other three teachers had in essence described. Furthermore, T4 added that his principal was seen as a delegator and one responsible for encouraging the "right school environment." None of the four teachers credited their principals as having student achievement as his/her primary focus, including the achievement of students with high ability.

In contrast to the teachers' responses, principals fully agreed that student

achievement, including students with high ability was an important responsibility they

assumed. P1 said that safety was most important followed by making sure all students

are achieving. P2 replied that it is her desire to create a culture that enables, encourages,

fosters, and supports growth for everyone, including students with high ability. P3 added

that her primary responsibility was to raise student achievement for all students,

including students with high ability. She also made reference to No Child Left Behind.

The consensus among the principals was that they carried a large burden of the

responsibility for student achievement, including students with high ability.

While the four teachers interviewed demonstrated respect for their principals, they

did not always see them as an integral part of the instructional process for students,

including students with high ability. In fact, the evidence from the interviews

demonstrated that teachers saw their principal as knowledgeable with certain managerial

skills necessary to create an efficient working environment and positive learning

environment. The teachers did not view the principals as catalyst for encouraging the use

of research-based strategies geared towards students with high ability. Rather, these

teachers believed it was the classroom teacher that made the necessary decisions in the

classroom that led to the improvement of instruction for students with high ability in their

school.

Principals, on the other hand, saw themselves as knowledgeable in the field of

instruction and strategies for use with students with high ability. They viewed

themselves as capable of supervising teachers and encouraging the use of research-based

strategies for their students with high ability. In fact the principals referred to themselves

as instructional leaders, with a primary responsibility to the improvement of student achievement, including students with high ability. Throughout the interviews of both groups, there existed evidence of two opposing views relevant to the extent principals are encouraging research-based strategies for the students with high ability in their buildings.

Summary

In general, principals seemed to be knowledgeable regarding research-based instructional practices geared toward students with high ability. Responses demonstrated principals identified many research-based instructional practices and according to their perception often encouraged these practices to some or to a great extent.

An analysis of teacher and principal responses suggested differences in the perceptions of teachers and principals regarding the extent middle school principals are encouraging research-based practices geared towards students with high ability. While teachers generally agreed principals were knowledgeable in the area of instructional practices, they did not support the perception of the principals relative to the extent that principals are encouraging research-based practices geared towards students with high ability. Essentially, principals believe that they are doing more to encourage these practices than teachers perceive.

The collected data illustrated the following patterns. Principals were more positive regarding their impact on the instruction of students with high ability than teachers. Middle school principals and their teachers perceived the impact of principals differently in each of the three areas which served as the framework for this study: (a) instructional planning, (b) delivery of instruction, and (c) developing student thinking

skills. Regarding these three areas, principals perceived themselves as leaders strongly encouraging specific research-based instructional practices for students with high ability. Teachers did not support this perception.

CHAPTER 5

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Introduction

The purpose of this study was to determine the extent to which middle school

principals are encouraging particular research-based practices relevant to teaching

students with high ability in their buildings. In addition, the researcher sought to examine

and compare principals' and teachers' perceptions of principal practices related to

meeting the academic needs of students with high ability in middle school.

The researcher looked at the methodologies employed by principals with an

examination of three related areas. First, the researcher outlined which research-based

instructional practices have shown to be most successful when working with students

with high ability. Second, the researcher sought to determine the depth of principal

knowledge regarding the research-based instructional practices. Third, the researcher

sought to determine the degree to which principals encouraged the teachers under their

supervision to employ the instructional strategies when teaching the students with high

ability in their classrooms.

Furthermore, this study used three research questions upon which to center its

investigation of principal practices relevant to students with high ability. The answers to

these research questions were used to determine the extent middle school principals

perceive that they are encouraging particular research-based instructional practices

relevant to teaching students with high ability in their buildings; the extent middle school teachers perceive that the principal of their building is encouraging them to employ specific research-based instructional strategies to teach students with high ability in their classrooms; and how the perceptions of middle school principals and teachers differ regarding the extent to which principals are encouraging employment of research-based instructional strategies with middle school students with high ability.

Though research has repeatedly supported the necessity of specialized educational services and programs for students with high-ability, the availability and quality of those services continues to vary dramatically from place to place and time to time. While in public school districts the decisions concerning the nature, scope, and funding of programs for students with high ability are often made at the district level, the actual implementation of such programming is greatly impacted by decisions made at the most basic level, in the local school. Such decisions including those of material, facility space, and personnel allocation most often fall within the umbrella of responsibilities of the school's principal, and thus are significantly impacted by his/her perception of what is necessary and what he/she can do to meet that perceived need. It is for this reason that a deeper investigation of the role of the middle school principal in providing instruction to middle school students with high ability was important to complete and report.

Research Methodology

A questionnaire was developed in order to gather data on principals' and teachers' perceptions regarding the extent to which middle school principals are encouraging the employment of research-based instructional practices with middle school students with

high ability. The questionnaire consisted of six demographic questions, 29 Likert-type

scale items and nine open-ended questions (See Appendix I, Demographic Information;

Appendix II, Principal Questionnaire; and Appendix III, Teacher Questionnaire). One

questionnaire was administered to each of the 129 principals used in the study and three

teachers to each of the principals' schools.

Semi-structured telephone interviews were conducted as a secondary means of

collecting principals' and teachers' perceptions as suggested by research (Merriam,

1998). An interview protocol was developed and followed to investigate further the

research questions of this study (See Appendix V). A total of three principals and four

teachers were randomly selected from a list of 56 volunteers.

Discussion of Findings

Role of Principal in Providing Instructional Leadership

The principal's role in public education has undergone many significant changes

in perception and in scope over the last 100 years. Unlike predominant views between

the 1920's and 1970's which saw the principal as an administrative manager (Hallinger,

1992), the principal of today is expected both by the general public and by federal

legislation to be much more (King, 2002). Today, the role of principal has expanded to

include a larger focus than simply managing the status quo (King). The principal must be

concerned with curriculum and instruction, professional development, data driven

decision-making, and accountability (King; Wiles & Bondi, 1996). In the midst of

promoting a positive culture, encouraging collaboration, problem solving with staff, and

creating a vision for the future (Deal & Peterson, 1994), the principal must ultimately

answer to the standards set by the federal legislation, Public Law 107-110 (NCLB, 2001).

Although the debate continues on the direct effects of the role of the principal on

student achievement in general, there is little disagreement among researchers that

principals do have an impact on the lives of teachers and students (Hallinger & Heck,

1996). In fact, researchers have determined that principals do have a significant effect on

student outcomes, even if in an indirect manner. This includes students with high ability

(Hallinger & Heck; Van Tassel-Baska, 1994).

Inger (1993) further added that education reform calls for meaningful, extensive

collaboration among teachers and administrators. This collaborating is seen as the link

between effective teaching and learning (Edmonds, 1982). Principals, acting as

instructional leaders, are needed to facilitate the implementation of research-based

instructional strategies for students with high ability in their schools. However, this study

demonstrated that teachers do not support middle school principals' perceptions relative

to the extent that the principals are encouraging teachers to employ specific research-

based instructional practices to teach students with high ability. Additionally, it brought

to light areas relevant to instructional planning and delivery of instruction in which both

groups agreed that principals are not encouraging research-based instructional strategies.

Significance of the Study

Principal Preparation and Professional Development

The intent of this study was not to determine the extent that particular research-

based instructional practices geared toward students with high ability were being

employed in middle schools. Rather, it was related to the leadership ability of principals to guide their teachers in putting the practices into place. Since principals are not having the impact on the education of students with high ability that they perceive, a closer examination of their professional development needs is warranted. This is important not only as it relates to students with high ability but to all the middle school students they serve.

For schools of higher education, this means that programs which focus on principal preparation and educational leadership must provide courses which not only acquaint those aspiring to leadership with the needs of the students with high ability, but which also give them training identifying these students and designing programs which meet their cognitive and affective needs. For programs of leadership training within schools and districts, there must be a concentration on developing administrative awareness at all levels concerning the needs of students with high ability and the resources available within the school/district for meeting those needs (Detmer, 1986).

If principals are to serve as effective educational leaders, they must be equipped with the skills to translate educational theory into educational practice, specifically in the area of instructional supervision. It is not enough for a principal to know what constitutes good instruction. The principal must have the ability to translate what he/she knows to be right into appropriate curricular plans and interventions in order to serve the needs of a wide range of students. Likewise, it is not enough for principals to know what is appropriate programming. They must also be able to put the knowledge to use in the creation and maintenance of high quality services for students at all levels (Kanpol & Weisz, 1990).

Schools of higher education that offer training for instructional leaders must therefore design programs of study which go beyond theory to practice and must take participants beyond knowledge and comprehension of what is appropriate for students with high ability to: application of that knowledge; synthesis of creative initiatives in programming and coursework; and meaningful analysis and evaluation of current programs. Such programs should involve not only classroom study but also active hands-on internships and collaborative ventures in settings where real-world products can be produced and utilized by real learners (Bloom, 1985).

Principals and Standards for Students with High Ability

For those in the field of gifted education, this study also has significant implications. If principals are to adequately serve students with high ability in their schools, they must be made aware of what the needs of these students are and of how these needs are to be met. Principals must be provided clear standards of what constitutes appropriate, high-quality instructional programs for students with high ability. Those in the field of gifted education must begin to aggressively promote a model of instruction that differentiates for students with high ability. Likewise, those in the field of gifted education must promote instructional methodologies for students with high ability, even if those strategies are not beneficial to all other students (Rimm, 1995).

In a similar vein, those in the field of education must stress that "giftedness" is more than a cognitive reality. It is a condition of "heart" as well. Students with high ability have great affective needs. Those in the field must alert education leaders to the affective aspects of curricular design; of the need of the students with high ability to associate with others at their cognitive level; of their needs for early career guidance; and

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of counseling services provided by those who have adequate understanding of who they are and what they are experiencing. Those in the field of gifted education must raise awareness of the plight of underachievers and the at risk students with high ability (Renzulli & Reis, 1991).

Beyond increasing awareness of standards for students with high ability, those in the field of gifted education must offer helpful interpretation of what those standards represent. It must operationalize the definitions so that principals can look at what is occurring in their buildings and can compare it to the standards and see whether, in fact, the standards are being met. Those in the field of gifted education must promote a model of instruction which is both prescriptive and flexible and which can be altered to meet the needs of individuals. Additionally, the model must get into the hands and the daily practice of principals and teachers (Van Tassel-Baska, 1992).

Those in the field of gifted education must more closely examine the organizational structure within schools and its impact on students with high ability. These may include the common middle school structures of block scheduling and teaming of core instructional teachers. They must take a more active role in advocating for students with high ability at all grade levels in all schools and in advocating for the right and the responsibility of principals to make the changes necessary in order to meet the needs of their students with high ability (Gallagher, 1994). Furthermore, those in the field of gifted education must keep the need for professional development for those who work with students with high ability at the forefront (Detmer, 1986).

In summary, the results of this study indicate that although principals perceive that they are encouraging their teachers to employ research-based instructional strategies

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for the students with high ability in their classrooms, there is a disconnect. The teachers

under their supervision maintain the perception that middle school principals are

encouraging the use of research-based instructional strategies geared toward students

with high ability to only a slight extent. Based on these results, perhaps the greatest

implications which can be drawn from this study for each middle school principal relate

to the following issues:

1. There are students with high ability, sometimes referred to as "gifted" enrolled
   in their schools (Tomlinson, 1996a).

2. The students with high ability have cognitive and affective needs which are
   different from those of other students in their school, and which must be
   addressed to encourage their development to their maximal potential
   (Colangelo & Davis, 1997).

3. Principals must extend the realm of ways in which schools meet learner needs
   by taking an active leadership in implementing research-based instructional
   strategies geared towards meeting the needs of their students with high ability
   (Boyd & Hord, 1994).

Conclusion

This study supported the conclusion that, in general, principals are knowledgeable

of research-based instructional practices relative to teaching students with high ability as

outlined in the review of literature in this study. However, teachers do not support the

perception of principals that they are encouraging the use of these practices in the

classrooms of their buildings. Furthermore, the findings of this study suggest

discrepancies between principals' perceived knowledge about research-based instructional practices geared towards students with high ability and their actual pedagogical knowledge.

In addition, this study suggested that, for the most part, principals were seen by their teachers to be knowledgeable regarding the instruction of students with high ability, but their role was not seen as significant or primary in meeting the needs of students with high ability in their classrooms. As a result, this feeling on the part of the teachers that principals hold a secondary role in schools' efforts to provide instruction that best meets the needs of students with high ability could impede principals from leading teachers to make any significant changes that may benefit students with high ability in the future.

Recommendation for Further Study

The data from these 79 middle schools revealed some potentially interesting glimpses into the perceptions relative to the extent principals are encouraging their teachers to employ particular research-based instructional strategies geared towards students with high ability. Care should be taken against inferences involving other populations, as that was not the intent of this research. However, the instruments and the methodology utilized in this study may be useful in further investigations of this nature. Continued improvements of both instruments may also provide benefit to middle school principals and district personnel charged with providing leadership to schools.

The first and most obvious recommendation would be to increase the population of the present study to a larger group and broader geographic region.

The primary difficulty with this study was the limited scope of information and the lack of generalizability beyond this distinct population. A larger group might not only reveal more nuances, but might then input a generalizability factor that is not present in the current study. In the current state of public education, middle schools in particular are in need in of generalizable information that can help principals meet the demands of their jobs (Ciaccio, 1998). Because of the unique student populations they serve, demands place upon middle school principals tend to be different than those of other grade classifications. A replication of this study with a larger population might provide much needed information.

Second, an investigation into middle school principals' knowledge of and familiarity with gifted curriculum and instruction would be beneficial to middle school students with high ability. There remains the issue of how well most principals understand the plight of students with high ability and the unique learning environment they need. Education is the method which gifted advocates will turn the cycle of depleted resources and lack of attention to students with high ability (Tannenbaum, 1983).

Third, high school principals have not been addressed concerning the relationship between the constructs presented within this study. While similar in some ways to middle school principals, high school principals must deal with different issues not faced in middle schools. High school preparations for college or vocational careers place entirely different academic demands upon students. Therefore, the issues deemed important for high school principals might be intrinsically different from those of middle school principals. What relationship would then exist between high school principals and

their perceptions of gifted curriculum and instruction as it relates to Advanced Placement or Honors classes offered in their schools?

Finally, although the present study focused on principals and their role in supporting instruction for middle school students with high ability, future explorations might focus on other NAGC standards such as socio-emotional guidance and counseling, program evaluation, or student identification methods. Additionally, continued research into areas that have undergone extensive research already, such as program administration and management, program design, and professional development, might yield necessary innovations that would facilitate the achievement of students with high ability beyond what has been experienced.

Regardless of the specific topic, the issue remains that public schools are scrutinized by every corner of society. For those who choose to accept the challenge, students with high ability are in need of innovations so they can function as truly gifted members of society. Current focus on making sure that students perform adequately on high-stakes test has left the students with high ability with but a faint voice on the national educational scene; that voice must be amplified (National Association for Gifted Children, 2004).

Summary

This study investigated the pedagogical knowledge of middle school principals relative to research-based instructional practices geared towards students with high ability. It also studied both principals' and teacher's perceptions of principal actions

related to the supervision of classroom instruction and the implementation of the research-based practices in their respective buildings.

The findings of this study suggested that, while principals are knowledgeable regarding research-based instructional practices geared toward students with high ability, they do not always encourage such practices to a great extent. Furthermore, principals sometimes encourage conflicting practices, indicating that other influences might determine the decisions they make as they attempt to meet the needs of students with high ability.

While federal legislation and public opinion demand more of today's principals, principals are pulled in many directions and the needs of the students with high ability in the classrooms of their buildings may not be one of their highest priorities. If public education is to meet the expectations of federal law and public opinion, principals must be well-versed, well prepared, and experienced in the area of instructional leadership and the implementation of research-based instructional practices for students with high ability.

APPENDIX I

MATRIX OF CONCEPTS

Item	Questions	Instructional Planning	Delivery of Instruction	Developing Student Thinking Skills
	To what extent do you encourage your teachers to:			
1.	Focus on qualify of work rather than quantity?	X		
2.	Promote high-order thinking skills?			
3.	Teach students to reflect on own thinking process?			
4.	Emphasize in-depth work?	X		
5.	Use inquiry to investigate real-life problems?			X
6.	Provide students opportunities to solve problems?			X
7.	Apply cognitive approaches to real situations as opposed to structured exercises?			X
8.	Apply affective approaches to real situations as opposed to structured exercises?			X
9.	Emphasize creative thinking?		X	
10.	Emphasize problem solving?			X
11.	Emphasize independent study skills?			X
12.	Formulate questions to assist students to become efficient in critical thinking?		X	
13.	Formulate questions to assist students to become efficient with analysis skills?		X	
14.	Focus on abstract reasoning?		X	
15.	Focus on critical thinking?		X	

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		Instructional Planning	Delivery of Instruction	Developing Student Thinking Skills
16.	Focus on accelerated content?	X		
17.	Seek to meet the affective needs of students?			X
18.	Quicken the pace of learning for students with ability?			X
19.	Differentiate depth and complexity of subject matter for students with high ability?			
20.	Provide flexible grouping for students with high ability with other students of high ability?			X
21.	Accelerate the pace of learning through prescriptive instruction for students with high ability?	X		
22.	Compact the curriculum for students with high ability to allow them to work only on assignments they have not mastered?	X		
23.	Provide students with high ability individualized instruction that is geared to meet their specific needs?	X		
24.	Provide students with high ability individualized instruction that is geared to meet their specific abilities?	X		
25.	Provide students with high ability individualized instruction that is geared to meet their specific interests?			X
26.	Employ self-selected independent study for students with high ability?			X
27.	Refer students with high ability to mentoring programs as one means to differentiate outside of the classroom?			X
28.	Focus on universal concepts such as systems, structures, and perceptions?			X
29.	Ensure that the curriculum for students of high ability is differentiated from the standard curriculum?	X		

DEMOGRAPHIC INFORMATION

Please respond to the following statements by checking the option that describes you, or by providing the specific information requested.

1.   Gender

Male ____   Female   ____

2.   Ethnicity

Caucasian   ____   Hispanic   ____
Asian   ____   African-American   ____
Native-American   ____   Other   ____

3.   Years of experience in education   ____

4.   Current Assignment _____

5.   Highest Degree Earned

BA/BS   ____   Educational Specialist ____
MA/MS   ____   Ph.D./Ed.D   ____
Other   ____

6.   Training in teaching of gifted/talented at the middle level (check all that apply)

None   ____   Workshop outside district   ____
Educational degree in area   ____   District In-service   ____
Courses at college/university ____

PRINCIPAL QUESTIONNAIRE

This questionnaire will require approximately 30 minutes of your time. Choose the appropriate number and circle it for each of the questions below. Thank you.

1 = No Extent   3 = Some Extent
2 = Slight Extent   4 = Great Extent

Please return the survey in the enclosed self addressed envelope by June 1, 2007. You may also fax the survey back to 702-799-0348.

Part I: Please respond to the questions in this part as it pertains to all students in your building.
To what extent do you encourage your teachers to:

	No Extent	Slight Extent	Some Extent	Great Extent
1. Focus on quality of work rather than quantity?	1	2	3	4
2. Promote high-order thinking skills?	1	2	3	4
3. Teach students to reflect on own thinking process?	1	2	3	4
4. Emphasize in-depth work?	1	2	3	4
5. Use inquiry to investigate real-life problems?	1	2	3	4
6. Provide students opportunities to solve problems?	1	2	3	4
7. Apply cognitive approaches to real situations as opposed to structured exercises?	1	2	3	4

	No Extent	Slight Extent	Some Extent	Great Extent
8. Apply affective approaches to real situations as opposed to structured exercises?	1	2	3	4
9. Emphasize creative thinking?	1	2	3	4
10. Emphasize problem solving?	1	2	3	4
11. Emphasize independent study skills?	1	2	3	4
12. Formulate questions to assist students become efficient in critical thinking?	1	2	3	4
13. Formulate questions to assist students to become efficient with analysis skills?	1	2	3	4
14. Focus on abstract reasoning?	1	2	3	4
15. Focus on critical thinking?	1	2	3	4
16. Focus on accelerated content?	1	2	3	4
17. Seek to meet the affective needs of students?	1	2	3	4

Part II: **Please respond to the questions in this part as it pertains to students with high ability in your building.**
To what extent do you encourage your teachers to:

	No Extent	Slight Extent	Some Extent	Great Extent
18. Quicken the pace of learning for students with high ability?	1	2	3	4
19. Differentiate depth and complexity of subject matter for students with high ability?	1	2	3	4
20. Provide flexible grouping for students with high-ability with other students of high ability?	1	2	3	4

	No Extent	Slight Extent	Some Extent	Great Extent
21. Accelerate the pace of learning through prescriptive instruction for students with high ability?	1	2	3	4
22. Compact the curriculum for the students with high ability to allow them to work only on assignments they have not mastered?	1	2	3	4
23. Provide students with high ability individualized instruction that is geared to meet their specific needs?	1	2	3	4
24. Provide students with high ability individualized instruction that is geared geared to meet their specific abilities?	1	2	3	4
25. Provide students with high ability individualized instruction that is geared to meet their specific interests?	1	2	3	4
26. Employ self-selected independent study for students with high ability?	1	2	3	4
27. Refer students with high ability to mentoring programs as one means to differentiate outside of the classroom?	1	2	3	4
28. Focus on universal concepts such as systems, structures, and perceptions?	1	2	3	4
29. Ensure that the curriculum for students of high ability is differentiated from the standard curriculum?	1	2	3	4

Would you like a copy of the results?   _____Yes   _____No

If you are willing to participate in a telephone interview, please provide the following information. All responses will be kept confidential.

First Name: _____
Phone Number(s) (H): _____ (W): _____
Best Time to Call: (H): _____ (W): _____

In the provided envelope, please return your questionnaire along with the teachers' questionnaires. Return them in the self-addressed stamped envelope. Thank you.

TEACHER QUESTIONNAIRE

This questionnaire will require approximately 30 minutes of your time. Choose the appropriate number and circle it for each of the questions below. Thank you.

1 = No Extent   3 = Some Extent
2 = Slight Extent   4 = Great Extent

Please return the survey in the enclosed self addressed envelope by June 1, 2007. You may also fax the survey back to 702-799-0348.

Part I: Please respond to the questions in this part as it pertains to all students in your building.
To what extent does your principal encourage you to:

	No Extent	Slight Extent	Some Extent	Great Extent
1. Focus on quality of work rather than quantity?	1	2	3	4
2. Promote high-order thinking skills?	1	2	3	4
3. Teach students to reflect on own thinking process?	1	2	3	4
4. Emphasize in-depth work?	1	2	3	4
5. Use inquiry to investigate real-life problems?	1	2	3	4
6. Provide students opportunities to solve problems?	1	2	3	4
7. Apply cognitive approaches to real situations as opposed to structured exercises?	1	2	3	4

	No Extent	Slight Extent	Some Extent	Great Extent
8. Apply affective approaches to real situations as opposed to structured exercises?	1	2	3	4
9. Emphasize creative thinking?	1	2	3	4
10. Emphasize problem solving?	1	2	3	4
11. Emphasize independent study skills?	1	2	3	4
12. Formulate questions to assist students become efficient in critical thinking?	1	2	3	4
13. Formulate questions to assist students to become efficient with analysis skills?	1	2	3	4
14. Focus on abstract reasoning?	1	2	3	4
15. Focus on critical thinking?	1	2	3	4
16. Focus on accelerated content?	1	2	3	4
17. Seek to meet the affective needs of students?	1	2	3	4

Part II: **Please respond to the questions in this part as it pertains to students with high ability in your building.**

To what extent does your principal encourage you to:

	No Extent	Slight Extent	Some Extent	Great Extent
18. Quicken the pace of learning for students with high ability?	1	2	3	4
19. Differentiate depth and complexity of subject matter for students with high ability?	1	2	3	4
20. Provide flexible grouping for students with high-ability with other students of high ability?	1	2	3	4

	No Extent	Slight Extent	Some Extent	Great Extent

21. Accelerate the pace of learning through prescriptive instruction for students with high ability?   1   2   3   4

22. Compact the curriculum for the students with high ability to allow them to work only on assignments they have not mastered?   1   2   3   4

23. Provide students with high ability individualized instruction that is geared to meet their specific needs?   1   2   3   4

24. Provide students with high ability individualized instruction that is geared to meet their specific abilities?   1   2   3   4

25. Provide students with high ability individualized instruction that is geared to meet their specific interests?   1   2   3   4

26. Employ self-selected independent study for students with high ability?   1   2   3   4

27. Refer students with high ability to mentoring programs as one means to differentiate outside of the classroom?   1   2   3   4

28. Focus on universal concepts such as systems, structures, and perceptions?   1   2   3   4

29. Ensure that the curriculum for students of high ability is differentiated from the standard curriculum?   1   2   3   4

Would you like a copy of the results?   _____Yes   _____No

If you are willing to participate in a telephone interview, please provide the following information. All responses will be kept confidential.

First Name: _____

Phone Number(s) (H): _____ (W): _____

Best Time to Call: (H): _____ (W): _____

In the provided envelope, please return the questionnaire to the principal of your school. Thank you.

APPENDIX V

INTERVIEW PROTOCOLS

Principal Interview

This interview will require approximately 30 to 40 minutes of your time. Thank you for your willingness to participate.

1. What instructional strategies do you encourage your teachers to use with gifted middle school students?

2. What instructional strategies have you found most useful in teaching gifted middle school students?

3. In your middle school, how do you encourage the use of acceleration in teaching gifted students?

4. How do you encourage the use of enrichment in your building?

5. In what ways, if any do you compact curriculum as needed for students?

6. In your middle school, what would you say is the average amount of time per period a student spends listening to a lecture or completing drill and practice?

7. How would you describe the academic abilities of the gifted students at your middle school?

8. Do you feel there is a need for differentiated curriculum for gifted students? In what ways?

9. How would you describe the ability of gifted students to learn new challenging materials during the middle school years? Is this different for other students?

Teacher Interview

This interview will require approximately 30 to 40 minutes of your time. Thank you for your willingness to participate.

1. What instructional strategies does the principal of your building encourage the teachers to use with the gifted middle school students in their classrooms?

2. What instructional strategies have you found most useful in teaching gifted middle school students?

3. How does the principal of your school encourage the teachers to use acceleration with the gifted students in their classrooms?

4. How does your principal encourage the teachers at your middle school to use enrichment as an instructional strategy in their classrooms?

5. How does your principal ensure that the teachers in your building are practicing compacting?

6. In your classroom, what would you say is the average amount of time per period a student spends listening to a lecture or completing drill and practice?

7. How would you describe the academic abilities of the gifted students in your classroom?

8. Do you feel there is a need for differentiated curriculum for gifted students? In what ways?

9. How would you describe the ability of gifted students to learn new challenging materials during the middle school years? Is this different for other students

APPENDIX VI

T-TESTS: PRINCIPALS AND TEACHERS

Item Number	Principal Mean	Teacher Mean	Mean Difference	t
1	3.10	2.01	1.09	10.1*
2	3.71	2.68	1.03	9.54*
3	3.23	2.09	1.14	10.6*
4	3.18	2.08	1.10	10.2*
5	2.85	2.02	0.83	7.69*
6	3.82	2.72	1.10	10.2*
7	2.49	2.14	0.35	3.24*
8	2.29	2.02	0.27	2.50*
9	3.53	2.59	0.94	8.70*
10	3.76	2.97	0.79	7.31*
11	2.84	2.36	0.48	4.44*
12	3.27	2.57	0.70	6.48*
13	3.13	2.35	0.78	7.22*
14	3.03	2.07	0.96	8.89*
15	3.23	2.27	0.96	8.89*
16	3.10	2.41	0.69	6.39*

Item Number	Principal Mean	Teacher Mean	Mean Difference	t
17	2.90	2.30	0.60	5.56*
18	3.13	2.40	0.73	6.76*
19	3.20	2.47	0.73	6.76*
20	2.32	2.23	0.09	0.83
21	2.62	2.45	0.17	1.57
22	2.48	2.27	0.21	1.94
23	2.57	2.01	0.56	5.19*
24	2.44	2.24	0.20	1.85
25	2.11	2.04	0.07	0.65
26	2.48	2.08	0.40	3.70*
27	2.05	1.90	0.15	1.39
28	1.90	1.78	0.12	1.11
29	3.00	2.43	0.57	5.28*

APPENDIX VII

SAMPLE CORRESPONENCE

May 1, 2007

Dear (Name of Principal)

I am a doctoral student in the Educational Leadership Department of the University of Nevada, Las Vegas, conducting a survey of Nevada middle school principals and three teachers from each of their staffs. I am seeking your responses to the questions on a comprehensive survey that will research instructional strategies used to teach gifted students in middle schools in the state of Nevada. As a dedicated educator, your responses will assist me in my research and will help me to make recommendations that might improve the training of principals in the aforementioned area.

I greatly appreciate you completing the questionnaire. I ask that you return the completed questionnaire in the attached stamped self-addressed envelope by June 1, 2007. If you have any questions while taking this survey, you may contact James Kuzma at 702-897-2391.

I realize your schedule is a busy one and that your time is valuable, but I am sure that you want to improve the quality of principal leadership as much as I do. Your responses will be kept confidential; I ask for no identifying information on the questionnaire form. The University's Research and Human Subjects Review Committee have approved the study. The completion and return of this questionnaire will indicate your willingness to participate in the study, and completing it will be the extent of your participation in this study. Should you wish to participate in a telephone interview as a follow-up to this survey, you may indicate so at the end of the questionnaire.

I thank you in advance for your cooperation and your assistance.

Sincerely,
James L. Kuzma
Doctoral Candidate
University of Nevada, Las Vegas

RESPONSE FORM

Response Forms -- Gifted Instructional Strategies in Middle School Survey: Principals

Your cooperation and assistance in critiquing the enclosed survey instrument are deeply appreciated. Please respond to each of the following:

Indicate the directions or questions, if any, that are unclear or need revision for any reason and provide suggestions for revision.

Indicate the requests for information or the questions, if any that may be of limited use either because the information requested is not available or will be difficult to use for analysis.

Suggest any questions, if any that may be trivial or inappropriate in the survey, and therefore, may need to be deleted. Please provide a brief explanation as to why.

Suggest additional questions, if any that should be included in the survey and provide a brief explanation as to why.

Please return this comment form and the attached survey by March 20, 2007. You may also email comments to me at
jlknvtrek@yahoo.com
Provide suggestions for improving and aspect of the format of the survey.

Indicate how long it took you to take the survey.

Thank you   **Comments?**   **Suggestions?**

Thank you in advance for your assistance. Please return this comment form and the attached survey by March 20, 2007. You may fax it to 702 (799-0348) or mail to James Kuzma, Hyde Park Middle School, 900 Hinson Street, Las Vegas, NV 89017, or call at (702) 799-4260 ext. 4101.

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Dissertation Title: Perceptions of Gifted Education in Middle School and the Role of Principal

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