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Gifted Education in Northeast Tennessee Public Schools: A Descriptive Study

A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education

by

Kathryn Ann Ross-Sisco

May 2008

Dr. Louise MacKay, Chair

Dr. Pam Evanshen

Dr. Eric Glover

Dr. Terrence Tollefson

Keywords: Gifted, Gifted and Talented, Student Identification and Assessment, Program Requirements and Policies, Funding, Professional Development

ABSTRACT

Gifted Education in Northeast Tennessee Public Schools: A Descriptive Study

by

Kathryn Ann Ross-Sisco

The purpose of this study was to examine gifted education programs in public schools in Northeast Tennessee. There is a wide disparity among established gifted programs regarding the identification of the students, the eligibility of the students, and the services they receive. This disparity has led to varying levels of support and service for gifted children in Northeast Tennessee. A survey was developed and distributed to individuals who oversee the gifted department in their school systems. Data were collected regarding gifted student identification processes, individual program requirements, funding of gifted programs, professional development, and advanced teacher training.

National research has been directed towards the identification of gifted students and the types of programs that might be optimal for students with high intellectual abilities. This study was a descriptive analysis of the identification process of gifted children and the programs and policies in place in a purposeful sample of the school systems of Northeast Tennessee. This researcher examined various aspects of funding allocation for this special population. There are significant differences in the allocation and use of resources by Tennessee school systems. The researcher also sought to identify the programs that are offered for gifted students.

This study revealed that some school systems in Northeast Tennessee do not have established gifted programs. The school systems that do have established gifted programs vary. Some of these schools provided a modified gifted program that included two types of pullout programs.

In the first type, students left the regular classroom or were pulled out to go to a separate classroom to receive gifted instruction once a week. In the second type, students were pulled out once every 2 weeks. Many of the respondents reported they provided differentiated instruction for all students. Of the school systems that had established programs, respondents reported that their schools had written objectives or philosophies for their gifted programs.

The reported need for financial support was great. According to the respondents, more funds were needed to support teacher training, hire more personnel (teachers and administrators), purchase materials, and extend programs.

DEDICATION

I would like to dedicate this dissertation to the following people:

To my wonderful husband, Dr. Howard Thomas Sisco, you are my love, my soul mate, my best friend, and my confidant. God has truly blessed me with the opportunity to share my life with you. Without you, I would be lost. Thank you for your strength and encouragement throughout this process. I couldn't have done it without you. I am so proud to walk the graduation stage with you by my side, as always.

To my precious mother and father, Ronald and Nancy Ross. My love and admiration for you both is infinite! You have raised me to be the person I am today. You have given me the strength and fortitude to go on and pursue my dreams. This degree has been a dream of yours and mine for many years and it is now time to realize that dream. I congratulate and thank you both for being the perfect parents for me.

To my son, Ronald Thomas Sisco, my baby son. You have been a twinkle in my eye from the first moment I saw you. I am watching you grow into a wonderful man before my eyes. I am so proud of you and your accomplishments. I look forward seeing you attend college and fulfill your dreams. I love you always! (16 years old).

To my son, Ross Michael Sisco, you have the biggest heart of any person I know. Your loving ways reach all those whom you meet. You are patient at times when no one else would be. You are very gracious of your time, love, friendship, and sharing of your faith in God. I am so proud of you! You are a wonderful person and I love you always! (13 years old).

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I love you my children and may God bless you always.

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CHAPTER 1

INTRODUCTION

Every school year, a small number of children in Tennessee schools are identified as either intellectually gifted or gifted and talented. This identification, as in many educational situations, is often lost in a sea of labels, letters, and acronyms. Trained psychologists and special education teachers determine who is to be identified as gifted by using an identification process that includes grade level screening, individual screening, and a comprehensive evaluation. Parents and educators are then faced with the challenge of educating these gifted students in a state system that is often not financially prepared to support them (Swanson, 2004). According to the ERIC Clearinghouse on Handicapped and Gifted Children (1990), “Using a broad definition of giftedness, a school system could expect to identify 10% to 15% or more of its student population as gifted and talented” (p. 2).

Statement of the Problem

There is a wide disparity between established gifted programs in the school systems of Tennessee, the identification of the students, and the eligibility of the students. This disparity has led to varying levels of support and service for gifted children in Tennessee. Riley (2002) cited Harolyn Hatley, coordinator of gifted services for the Tennessee State Department of Education, “We do have disparity across the state . . . some districts serve hundreds of gifted kids every year while others serve none” (p. 1). In a joint study committee report regarding intellectually gifted students, the Tennessee State Board of Education (2004) clearly stated these concerns:

In recent years, different constituencies have raised a number of issues regarding gifted education services. Teachers have raised issues related to identification of gifted students and appropriate training. Local administrators have raised issues related to eligibility criteria, administrative costs in time and energy, efficiency, and services to intellectually

gifted students. Parents have raised issues of educational planning and access to advanced educational services. (p. ii)

The Intellectually Gifted Students Joint Study Committee, appointed by the State Board of Education, met throughout the fall of 2003 and made five recommendations. The recommendations were related [to]:

1. improving and clarifying eligibility criteria for intellectually gifted students;
2. improving education planning for intellectually gifted students as well as streamlining procedures and reducing paperwork related to Individual Educational Programs;
3. making evaluation and reevaluation methods and procedures more efficient and more appropriate for intellectually gifted students;
4. increasing the likelihood that the needs of intellectually gifted students are addressed and met in regular K-12 classrooms and that students have easier access to advanced instruction in higher grades and in postsecondary school settings; and
5. providing preservice, inservice, and advanced teacher training regarding the needs of intellectually gifted students. (Tennessee State Board of Education, 2004, p. ii)

The purpose of this study was to examine the identification of gifted children and the programs and policies that are in place to support their special needs in the school systems of East Tennessee by looking at specific systems in Northeast Tennessee.

Significance of the Study

Much national research has been directed towards the study of gifted student identification (Colangelo, Assouline, & Gross, 2004) and what types of programs are best for students with high intellectual abilities (Davidson, Davidson, & Vanderkam, 2004). According to the Tennessee State Department of Education (2002) guidelines, funding can be allocated to gifted education through special education to serve gifted children. It is important to examine how each Northeast Tennessee school system is using such funding. It is also important to identify the types and scopes of the programs that are offered.

The study focused on the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training.

Research Questions

This study focused on the following research questions:

1. To what extent are the gifted programs consistent within the districts of Northeast Tennessee in the identification and assessment regarding gifted education programs?
2. What are the program philosophies and instructional practices in Northeast Tennessee school systems regarding gifted education programs?
3. How is the education of gifted students in Northeast Tennessee funded?
4. What are the practices of professional development for teachers and administrators in Northeast Tennessee school systems regarding gifted education programs?

Definitions

Throughout the literature, a variety of terms were used to refer to gifted individuals. These terms are considered the proper universal terms of appropriate identification of the gifted. Some of these educational terms are as follows:

1. *Gifted*: Giftedness is "asynchronous development" in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching, and counseling in order for them to develop optimally (Columbus Group, 1991, n. p.).
2. *Gifted and Talented*: The federal *No Child Left Behind Act of 2001* defined gifted and talented students as "Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership

- capacities, or in specific academic fields and who need services and activities not ordinarily provided by the school in order to fully develop those capabilities” (U. S. Department of Education, 2007, n. p.).
3. *Intellectually Gifted Classifications*: Students can be classified as mildly, moderately, highly, exceptionally, or profoundly gifted. Levels of intellectual giftedness, as defined by IQ ranges and the prevalence of such children in the population, can be classified as follows: mildly gifted (115-129), moderately gifted (130-144), highly gifted (145-159), exceptionally gifted (160-179), and profoundly gifted (180+) (Gross, 2000, p. 1).
 4. *Talented*: The natural endowments of a person. A special, often creative or artistic, aptitude; general intelligence or mental power (Merriam Webster Dictionary, 2007, p. 1).
 5. *Intellectually Gifted*: “Intellectually gifted refers to having intellectual abilities and potential for achievement so outstanding that special provisions are required to meet the child’s educational needs” (Tennessee State Department of Education, 2004, p. 6).
 6. *Dual Enrollment Course*: a course a student takes in high school that counts for college and high school credit (VanTassel-Baska, 2005).

Limitations and Delimitations

The limitations of the study included the number of responses made to the electronic survey by the number of possible respondents. Another limitation of this study could be different responses from principals within the same school system. These different responses could be because of site-based decision-making. It is assumed that the principals will have knowledge of their school system’s options or expectations for gifted programs. A delimitation was the number of school systems in the Northeastern counties of Tennessee. The availability and accuracy of the published electronic list of special education administrators and public school directors was assumed to be accurate.

Overview of the Study

Chapter 1 of this study presents an introduction to the topic, the statement of the problem, the significance of the study, research questions, definitions, and limitations and delimitations. Chapter 2 presents a review of the literature concerning the history of gifted education and current and national trends (as well as those in Tennessee) in locating and providing appropriate education for gifted students. Chapter 3 includes the methods and procedures for conducting the study. Chapter 4 contains the results and findings of the study. Chapter 5 presents a summary of the findings, conclusions, and recommendations for further research.

CHAPTER 2

LITERATURE REVIEW

This literature review presents the history of gifted education during the last century in this country. It also examines current national trends in gifted education as well as current trends and definitions of gifted education in the Northeastern counties of Tennessee.

History of Gifted Education

The history of gifted education began early in the 19th century. According to Delisle (1999), in 1869, Sir Francis Galton:

...had his inquisitive scientific fingers in many pots; geography, statistics, fingerprint classification, and genetics, to name several. A genius himself, he was the person most responsible for making intelligence a scientific and measurable concept. From this 19th century view, intelligence was a general cognitive ability—indeed, the most influential one in determining a person's life success. (p. 3)

As reported by Hargrove (1999), Alfred Binet and his colleague, Theophilus Simon, gathered enough data in 1905 to estimate what to expect intellectually from a child between the ages of 3 and 11. Later, William Stern developed a formula that resulted in the IQ score or intelligence quotient (Hargrove). Imbeau (1999) stated that Lewis Terman and his colleagues developed the Stanford-Binet Intelligence Test in the 1920s. In contrast to his counterpart, Alfred Binet, Terman focused on those individuals who scored at the upper limits of his instrument to learn more about their cognitive and affective characteristics (Imbeau). According to Coleman (1999):

...Lewis Terman, noted for his development of the Stanford-Binet Intelligence Test, initiated the first major study of "gifted children" in the 1920s. This longitudinal (70 year) study of over 1,500 gifted children as they progressed into adulthood has remained the foundational study for our field. (p. 2)

Terman's study has been viewed as a tool to shape an understanding of a specific population of students with outstanding abilities. Delisle (2003) recorded Terman's 1905 quote during his study of 1,500 gifted children with an IQ of above 140:

Heroic effort is made to boost every child just as near to the top of the intellectual ladder as possible, and to do so in the shortest possible time. Meanwhile, the child's own instinct and emotions...are allowed to wither away. No adjustment of clock wheels, however complicated and delicate, can avail if the main spring is wrongly attached or altogether missing. (p. 2)

As noted in Klein's (2002) book, *A Forgotten Voice, A Biography of Leta Stetter Hollingworth*, during the 1920s, Hollingworth took Terman's research a step further and suggested that typical schooling would not be appropriate for highly gifted students. Klein discussed a toast that had been made at a conference convened in Hollingworth's memory 50 years after her death:

Whereas Lewis Terman...deservedly gets credit for providing the United States its first major tool for objectively identifying intellectually talented individuals in order to study them further, Leta Hollingworth took the next important step, to nurture them academically...It took both of them working hard and largely independently on opposite coasts to get the movement started. Both were towering pioneers--paradigm shifters. (p. xiv)

Hollingworth pioneered the concept of "differentiated learning" (Coleman, 1999, p. 17). She proposed that gifted children required alternate schools as well as instruction. Hollingworth then started a school in New York City that became one of the earliest examples of "differentiated curriculum" (p. 17). Hollingworth made significant strides in the field of gifted education as well as having a strong influence on some of the budding psychologists of the time such as Carl Rogers who was one of her students (Klein). Rogers did significant work in client-centered therapy and personality development. Later, Carl Rogers went on to win the Distinguished Professional Contribution Award for his work in the field of psychology ("Distinguished Professional Contribution Award for 1972," 1973).

Hollingworth (1942) was also an early activist for women's rights. She lived during a time in history when women were characteristically viewed as inferior and intelligent women were not viewed as being any different. Haensly (1999) wrote, "This Renaissance woman was unbelievably productive at a time when gifted women were not necessarily viewed as capable as men and discrimination was rampant" (p. 34). According to Klein (2002), Hollingworth pushed on with her beliefs and her research. She was a member of several, often times secretive,

organizations that were created by her and other women in order to enhance the lives gifted women. They would often assemble to discuss and debate current events, literature, or current research and, according to Klein, they maintained a constant flow of intellectual discussions.

As pointed out by Klein (2002), no truer words were ever spoken for extraordinarily gifted children than those from Hollingworth (1942) when she stated:

In the ordinary elementary school situation, children of 140 IQ waste half their time in school. Those above 170 IQ waste almost all their time. With little to do, how can these children develop the power of sustained effort, respect for the task, or habits of steady work? (p. 299)

World War I thrust the IQ test into a process of weeding out and pigeonholing American soldiers. Hargrove (1999), stated, “Intelligence (as measured on a test) has been used and, all too often misused, to sort and label individuals and even to promote racist ideas” (p. 38). According to Coleman (1999), World War II thrust the United States into a “radical acceleration” (p. 3) of pushing the best and brightest students through school to put their energies into the war effort. During this time, the officially titled *Servicemen's Readjustment Act* of 1944 or G.I. Bill was initiated to help war veterans obtain college educations. Technological and medical superiority became a national push and the gifted individuals of the United States were expected to achieve this excellence (Sayler, 1999).

In 1957, with the Russian launch of Sputnik, the first satellite in orbit, the United States government entered into an immediate race for space with Russia. Sayler wrote, “The Russian launch of Sputnik in 1957 brought immediate and powerful changes to the education of the gifted. Enormous amounts of money became available for schools especially in the areas of mathematics, science, and technology” (p. 13). In 1958, The National Education Defense Act made federal funding available to support programs to enhance and develop talents. According to Roberts (1999), the interest in gifted children had waned when the national economy was flourishing; however, in times of uncertainty, the gifted were considered a valuable resource. This push lasted through the late 1950s and into the early 1960s. As stated by Coleman (1999):

This push in the late 1950s and early 1960s dramatically reshaped education across the country, and although it was not aimed specifically at gifted students, I believe our top students were the ones who benefited most from the reorganization. The emphasis on "real curriculum" and the collaboration of scientists with educators to determine what children should learn is a pattern we are seeing revived in our current curriculum reform and standards efforts. (p. 18)

Definitions of Giftedness

The terms gifted and talented were often used interchangeably; however, each has had a slightly different focus. Gagne (1985) clarified the differentiation between gifted and talented as being based on domains of abilities when describing giftedness and exceptional performance as it related to talent. According to his perceptions, "Thus, one can be gifted without necessarily being talented (as is the case of underachievers), but not vice versa" (p. 103).

The continuing evolution of the definition of giftedness has encompassed an increasingly more diverse set of capabilities and consequently included a greater number of children (Borland, 1989; Renzulli, 1978; Renzulli & Reis, 1985). Many contemporary definitions of giftedness argued against the use of the unitary full-scale IQ score in favor of more specific attributes. These included Gardner's (1993) multiple intelligences, the three-ring conception of giftedness (Renzulli, 1986), and Sternberg's (1988) triarchic theory of intelligence. Perhaps the most inclusive definition of giftedness was that expressed by the U.S. Department of Education (2007):

Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (p. 26)

Prominent researchers such as Gardner (1983), Renzulli (1978), Gagne (2004), and Sternberg (1985) have developed some modern definitions and conceptions of giftedness. Gardner introduced the theory of multiple intelligences. This theory suggested that the traditional view of intelligence based on IQ testing was far too limited. Gardner stated, "Only if

we expand and reformulate our view of what counts as human intellect will we be able to devise more appropriate ways of assessing it and more effective ways of educating it” (p. 4). Gardner proposed that seven different intelligences accounted for a broad range of human potential. These seven intelligences were: (a) linguistic intelligence, (b) logical-mathematical intelligence, (c) spatial-visual intelligence, (d) bodily-kinesthetic intelligence, (e) musical intelligence, (f) interpersonal intelligence, and (g) intrapersonal intelligence. Later he proposed the naturalist, and the existentialist intelligences.

Renzulli (1999) defined giftedness as being divided into two broad categories or methods--the schoolhouse or lesson-learning method and the creative or productive method. The first method, the schoolhouse or lesson-learning method, was described as a method for identifying gifted students who had analytical skills and displayed special abilities. This method has been most commonly used because it is easily measured by standardized tests. Analytic and cognitive abilities are more valued in traditional school settings. The second method was the creative productive method. Emphasis has been placed on original ideas, artistic impressions, and products. This method was designed to expand the target areas of giftedness (Renzulli, 1999).

Gagne (2004) pointed out that the differentiated model of giftedness and talent was a five-level metric-based system with the lowest level fixed at 10%. This has led to the development of the five degrees of giftedness that Gagne (2004) labeled as mildly, moderately, highly, exceptionally, and extremely gifted. Figure One depicts Renzulli’s Three-Ring Conception of Giftedness.



Figure 1. Renzulli's Three-Ring Conception of Giftedness

Source: National Association for Gifted Children, 2007

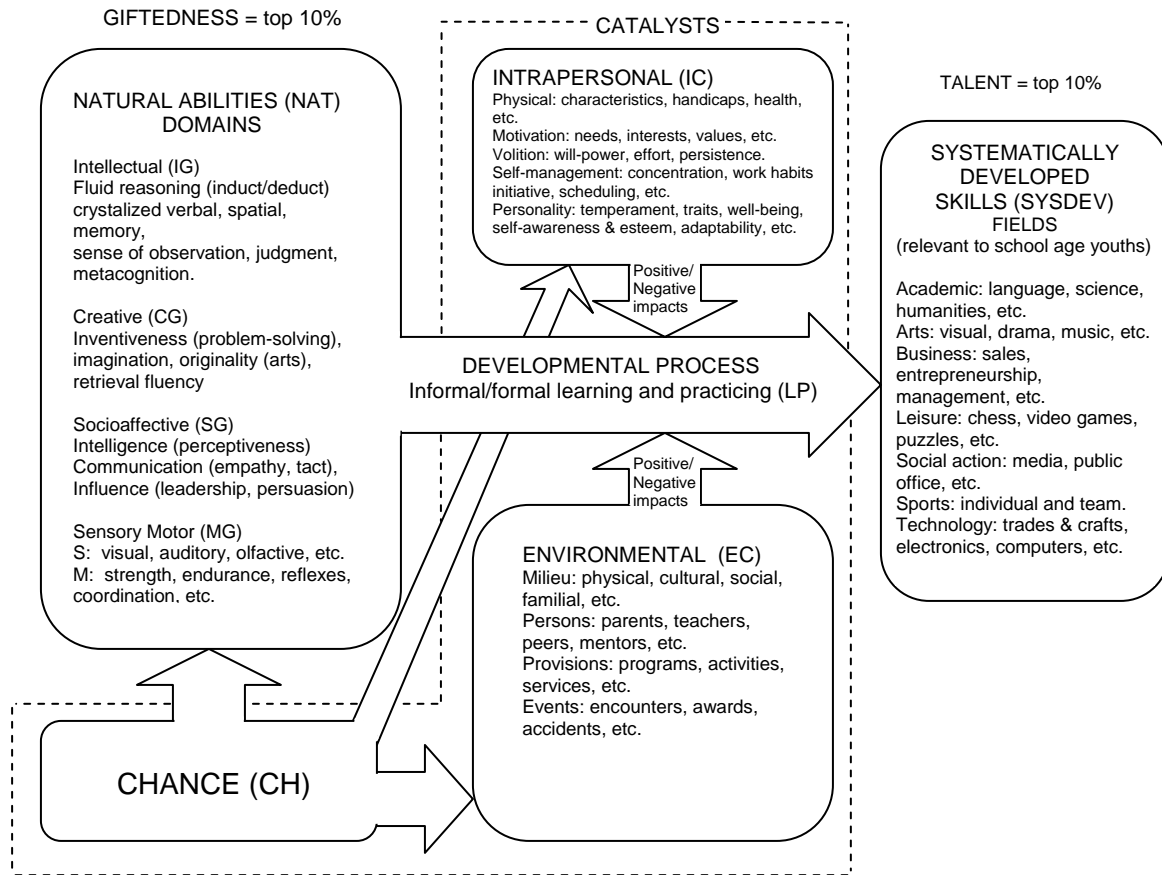
Used by permission, Dr. Renzulli, 3/26/08 (See Appendix E)

Gagne (2004) presented the differentiated model of giftedness and talent. Gagne (2004) suggested that a talent development process was the metamorphosis of exceptional natural abilities or gifts into developed skills that were systematically defined in specific occupational fields of expertise. Gagne (2004) discussed three types of catalysts that affected this process. The first was the interpersonal catalysts. The interpersonal catalysts are subdivided into five subcomponents: motivation, physical characteristics, personality, self-management, and violation. According to Gagne (2004), motivation is defined as a high level of self-management, such as good work habits, initiative, and time management. Physical characteristics determine whether a person has the physical parameters for a particular talent to determine the possibility that the student may be able to attain high performance levels in a talent. For example, a student must have the physical build to be a dancer or a football player. Five areas define personality: extraversion, agreeableness, conscientiousness, neuroticism, and intellect-openness. Gagne (2004) stated, “There is growing evidence for a close relationship between temperament dimensions and adult personality traits” (p. 127). Self-management is the center of a person’s self-development. Personal maturity and self-actualization are among the highest goals.

Violation is the last subdivision. This refers to the obstacles that have to be overcome to attain a goal such as delay of gratification, effort, resource and time allocation, perseverance, and self-regulation.

According to Gagne (2004), the environmental catalyst describes the positive and negative aspects that a student experiences in his or her personal environment. There were four categories in this catalyst. Gagne (2004) described the first as milieu or surroundings. This can be viewed on a macroscopic level that could be geographically, demographically, or sociologically. This could be done on a microscopic level that would reflect the family size or socioeconomic status. The person's category refers to the significant people in a student's life and their influence upon him or her--for example, parents, siblings, friends, educators, or mentors. These people hold a significant impact on a student's life. Gagne (2004) described the provisions category as "...a wide diversity of individual or group interventions specifically targeted at talent development. In the field of gifted education, professionals have traditionally subdivided provisions into three groups: "enrichment (often labeled 'differentiation'), grouping, and acceleration." (p. 128). The events category was developed to separate sudden changes (i.e. the death of a parent, moving to a diversified area, or a major illness or accident) from the stable environment the student has been accustomed. These life-changing events can positively or negatively affect talent development. The final catalyst was simply chance. Gagne (2004) stated, "Children have no control over the socioeconomic status of the family in which they are raised, the quality of the parenting they receive, nor over the existence of talent development programs in the neighborhood school" (p. 129).

Figure 2 depicts the four aptitude domains of the differentiated model of giftedness and talent. These domains include the intellectual, creative, sensorimotor, and socioaffective (Gagne, 2004).



Gagne's Differentiated Model of Giftedness and Talent (DMGT.US.2K)

Figure 2. Four Aptitude Domains of the Differentiated Model of Giftedness and Talent

Source: Gagne, 2004, p. 121 (See Appendix F)

Sternberg (1985) first proposed his three-element model of giftedness in 1985. In his triarchic model, he highlighted three patterns of giftedness: analytic, creative, and practical. He then described giftedness in terms of patterns of tasks or skills that people face every day. In 2000, Sternberg expanded his three patterns to seven: analyzer, creator, practitioner, analytical creator, analytical practitioner, creative practitioner, and the consummate balancer. Taking into account that gifted individuals are rarely gifted in just one area, the number of patterns was expanded to accommodate this phenomenon (Sternberg, 2000).

Higgins and Boone (2003) suggested that educators should also consider specific issues

and the challenges of identifying patterns of giftedness. One such issue was multipotentiality. Higgins and Boone pointed out that children who were gifted often had diverse interests and a wide variety of abilities; this often stymies educators when identifying an area of concentration. This clash of interests might cause the child to lose his or her productivity and to simply coast. In the book, *Genius Denied: How to Stop Wasting our Brightest Young Minds*, Davidson et al. (2004) described a real-world example of multipotentiality with an emphasis on loss of interest in learning in the absence of being challenged.

Ruf (2004, 2005) presented five levels of giftedness. Each level was subject to overlap and inner qualities sometimes changed over time because of environmental circumstances. Level one was described as test scores being at approximately the 90th-98th percentiles on standardized tests; this was labeled as superior to moderately gifted on IQ tests. These students were generally in the top one third to one fourth of students in a mixed-ability class. Many in this level did not qualify for gifted programs because their scores did not meet preset school criteria. Level two was described as students whose scores were mostly 98-99th percentiles on standardized tests and were labeled as moderately to highly gifted or very advanced on IQ tests. As many as one to three in this category were placed in a typical mixed-ability classroom and qualified for gifted programs. Level three was a term used to describe students whose scores were at approximately the 98-99th percentiles on standardized tests and were labeled as highly to exceptionally gifted. There could have been more than one student per grade level and the students tended to be found more often in high socioeconomic status schools. Students in this level qualified for gifted programs (Ruf, 2004, 2005). Levels two and three have the same standardized test score range; however, other criteria differentiate the two levels.

Ruf (2004, 2005) maintained that levels four and five both fell into the formally labeled categories of exceptionally and profoundly gifted. The students in both levels scored primarily at the 99th percentile on standardized tests. In level four, one or two of these students were found across grade levels. Level 5 was the most profoundly gifted category. These students had a high intellectual profile across ability domains and a great inner drive to learn across domains.

These students scored in the highly advanced range on IQ tests. Nationally, these students were found in a ratio of 1:250,000. A higher proportion was found in metropolitan areas and schools with high socioeconomic status (Ruf, 2005).

According to the Council for Exceptional Children (1990), “No child manifests all of the attributes described by researchers and the Office of Gifted and Talented” (p. 3). A gifted child might possess one attribute or several, and these attributes should be nurtured. An open mind should be maintained and common sense should be used in providing support and direction for these children.

Brain-Based Research

Important research has been conducted in the field of brain-based studies. Coleman (1999) stated, “As our understanding of the neurology of learning increases, we will need to continue to explore what this means in terms of ‘giftedness’” (p. 19). Roberts (1999) went on to say, “Brain-based research has added new dimensions to the understanding of human potential and how that potential can be developed” (p. 54). Findings from research in neuroscience emphasized the need to provide a stimulating environment not only for children who were gifted and talented but then for all children as well. This research highlighted the critical nature of the early childhood period (Roberts). Cross (1999) discussed brain hemisphericity, a process in which teachers learn how to teach to a child’s right brain or left brain. Hemisphericity was defined as the idea that people relied on a preferred mode of cognitive processing that was linked to predominant activity of either their left or right cerebral hemispheres. Individual hemisphericity has been thought to be located “somewhere on a gradient between right and left brain dominance with most people being intermediate” (Morton, 2006, p. 1). This concept was so influential that teachers described children as left-brained or right-brained learners.

The father of this research was Roger Sperry. According to the *Encyclopedia Britannica* (2006), Sperry, Hubel, and Wiesel were awarded the Nobel Prize for Physiology or Medicine in 1981. The *Encyclopedia Britannica* gave this brief history of Sperry:

Sperry's early research was on the regeneration of nerve fibers. He eventually became interested in brain function and undertook research on animals and then on human epileptics whose brains had been "split"—*i.e.*, in whom the thick cable of nerves (the corpus callosum) connecting the right and left cerebral hemispheres had been severed. His studies demonstrated that the left side of the brain is normally dominant for analytical and verbal tasks, while the right hemisphere assumes dominance in spatial tasks, music, and certain other areas. The surgical and experimental techniques Sperry developed from the late 1940s laid the groundwork for much more specialized explorations of the mental functions carried out in different areas of the brain. (p. 1)

In the book, *Human Brain and Human Learning*, Hart (1983) argued that teaching without an understanding of the brain and how it learns interfered with the learning process. Many educators have not been exposed to this wealth of information and new insights that form the backbone of brain-compatible research.

According to Hart (1983), brain-compatible education revolves around two basic building blocks and two conditions or emotional attachments of the brain's functioning. Hart suggested, "There is no concept, no fact in education, more directly important than this: The brain is by nature's design, an amazingly subtle and sensitive pattern-detecting apparatus" (p. 60). Caine (2004) also identified patterning as a critical principle in brain-mind learning. According to Caine, the first two building blocks were patterns of understanding and programming the brain. In patterns of understanding, the brain makes or recognizes mental patterns or structures in the brain. For example, the brain recognizes the letter "A" in any style, font, or size. The brain creates patterns for smells, sounds, faces, males, females, and things that one touches. These patterns develop through experiences and rich, stimulating environments. According to Hart, a classroom should be filled with stimulating artifacts, pictures, and activities. The schools should provide complex real world projects, field trips, speakers, current media, and technology. Hart explained:

We live by programs. Our discussion of extraction of patterns has shown the outcome of that process of learning as being recognition of patterns, to various degrees of discrimination. But plainly we do not live by sitting in an armchair and detecting patterns. We live by doing, by action. (p. 80)

In order to execute these functions, Hart (1983) explained, the brain must draw on many patterns or memories to coordinate instructions to the appropriate region(s) of the body. These

programs have been learned mainly by trial and error and are perfected through practice. The programs were deepened and ingrained through reinforcement in carrying out the functions many times and in many different ways. From this constant practice and reinforcement, woven neural connections were made. In essence, children must learn by doing (Hart). Caine and Caine (1997) expanded this concept by coining the term active processing as “the consolidation and internalization of information and procedures by the learner in a way that is both personally meaningful and conceptually coherent” (p. 121).

Hart (1983) also defined feedback in the context of reality and conformity to authority. These areas deal with the emotional aspects of the human brain. Students, as well as all individuals, need to know and understand whether they have completed a task well. This task might involve not only thinking patterns, responses, and habits but also physical actions. In order for this feedback to be most helpful, it needs to be immediate. Reality learning is most effective. For example, when playing with a ball, a person receives immediate feedback when the ball is caught successfully. Hart stated:

The input of the classroom--almost any classroom--thus proves on examination to bring a largely undesirable feedback from authority rather from feedback from reality; and it is further over laden with problems of personal relationships we have noted. But in addition, the overall, gross input tends to be extremely low. (p. 74)

Safety and security are conditions allowing the brain to revert to a more primitive stage. When a human is in fear or under threat, the brain will shift from a higher region of the brain to a lower region of the brain to prepare for battle or to escape the situation. This downshifting causes the brain to filter out any learning that might have taken place. According to Hart (1983), this is why a student must feel safe and secure in his or her environment to learn. A safe, noncritical environment is essential in learning. Hart pointed out, “One’s neocortex functions fully only when one feels secure” (p. 111). Hart’s original concept of safety and security was echoed by Caine and Caine (1997) who stated, “Complex learning is enhanced by challenge and inhibited by threat. The brain will downshift as a response to a threat, which will feel like helplessness or fatigue as well as lack of control of the situation at hand” (p. 108).

Diamond (2001) posed the question, “Can experience produce measurable changes in the brain?” Diamond reported:

As early as 1874, Charles Darwin mentioned that the brains of domestic rabbits were considerably reduced in bulk in comparison with those from the wild because, as he concluded, these animals did not exert their intellect, instincts, and senses as much as did animals in the wild. (p. 211)

Some research has also been conducted using human brain tissue in relation to the effects of enrichment. In 1993, Jacobs, Schall, and Scheibel focused on the Wernicke’s area of the brain, the area that is responsible for word comprehension in the cerebral cortex. They compared the effects of enrichment in brain tissue from deceased veterans who had college educations with those who had only high school educations. Jacobs et al. found that the nerve cells in the college-educated specimens showed more dendrites than did those in the high school-educated specimens. Coon (2006) defined dendrites as “fibers projecting from nerve cells that receive information from other neurons and carry it to the cell body” (p. G-8).

The experiments of Jacobs et al. (1993) using both human and rat brain tissue supported the data obtained from the studies cited by Diamond (2001). The basic concept of brain changes in response to an enriched environment has been validated. According to Diamond:

The message is clear: Although the brain possesses a relatively constant macrostructural organization, the ever-changing cerebral cortex, with its complex microarchitecture of unknown potential, is powerfully shaped by experiences before birth, during youth and, in fact, throughout life. It is essential to note that enrichment effects on the brain have consequences on behavior. (p. 1)

Brain-based research directly correlates with the study of how a student learns and how his or her environment influences that learning. Henderson and Ebner (1997) identified the biological aspects of environmental stimuli, cortical changes as linked to sensory stimulation, and repetitive stimulation in the environment. According to Henderson and Ebner, “Those of us interested in the optimal development of gifted and talented children have a special investment in understanding the developmental processes that result in the behavioral differences by which we identify such children” (p. 62).

Legislation

The 1960s also brought the Civil Rights Movement and desegregation. According to Cross (1999):

The Civil Rights Law, passed in 1964, signaled what I believe to be one of the three most important influences on gifted education. While it is hard to imagine, prior to 1964, and to some extent today, children of color have been left out of educational efforts to maximize talent. (p. 23)

According to Sayler (1999), the 1969 Congressional mandate, the *Marland Report*, marked the beginning of another gifted period. Sayler stated:

An amendment to PL91-230 added provisions for gifted children to the Title III and the Title IV programs. The purpose of these provisions was to determine what special education approaches might be useful to gifted children, determine which federal programs were helping gifted children, evaluate the effectiveness of any programs found, and recommended new programs and appropriate approaches. In response to this mandate, Commissioner of Education, Marland, authorized a study and issued a report on the state of gifted education in the United States. (p. 13)

According to Sayler, the *Marland Report* established a new level of awareness among educators about gifted students. The *Marland Report* also established six categories of giftedness. These areas were: (a) general intellectual ability, (b) specific academic ability, (c) creative or productive thinking, (d) leadership ability, (e) visual and performing arts, and (f) psychomotor ability. According to Haensly (1999), the *Marland Report's* definition of gifted education read:

Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society. (p. 35)

This report led to the U.S. Office of Gifted and Talented in 1972 (Roberts, 1999) and created an awareness that gifted students, overall, were not being served. In 1973, fewer than 4% of the nation's gifted children received any special provisions in public schools (Sayler, 1999).

The Tennessee Intellectually Gifted Students' Joint Study Committee Report stated:

In 1972, the Tennessee General Assembly passed the *Weldon Act* (Tennessee Public Acts of 1972, Chapter 839), which defined intellectual giftedness as a handicapping condition

in state law and required that all handicapped children receive a "free education appropriate to their needs." (Tennessee State Board of Education, 2004, n. p.)

Later, the 1974 Federal *Public Law 94-142* law was passed that ensured children with disabilities would be properly served by the public schools. The public schools would have to provide these children with appropriate educational services. Although this law did not have a direct impact on gifted children, it did raise a level of awareness that affected the practices of schools. It increased Americans' understanding of education and the responsibility that existed to accommodate the needs of exceptional students (Cross, 1999).

In 1988, enactment of the *Jacob K. Javits Gifted and Talented Students Education Act* provided millions of dollars to establish an Office of Gifted and Talented Education for a National Center for Research and Development in the Education of Gifted and Talented Youth (Weber, 1999). According to the National Association for Gifted Children (2007b), the act was created:

...to support the development of talent in our nation's schools, and focus its resources on children from backgrounds that have traditionally not been included in gifted education programs, particularly those who are disadvantaged economically, minority, or disabled, or those who are limited English proficient. (p. 1)

This particular act was helpful in pointing out special needs of minorities who had been affected by the discrimination of stereotyping. In addition, the *Javits Act* included appropriations for funding model projects to implement strategies and to report results (Roberts, 1999). Increased research and publications have been important byproducts of these events (Cross, 1999).

On January 8, 2002, the *No Child Left Behind Act* was passed (U. S. Department of Education, 2007). This act was originally named the *Elementary and Secondary Education Act* of 1965 (ESEA). ESEA was the umbrella law governing the federal government's involvement in K-12 education. Gifted education has been referenced throughout many pages of the *No Child Left Behind Act*. In this document, the following mandates have been made:

In Title I Improving the Academic Achievement of the Disadvantaged, States are required to explain the method used to define "annual yearly progress" and may use a host of academic indicators, including changes in the percentage of students in gifted and talented, advanced placement, and college preparatory programs. (Section 1111(b) (2)

(C) (vii)). (p. 24)

In Title II Preparing, Training & Recruiting High Quality Teachers & Principals, an LEA (Local Education Agency) application for a sub-grant from the state must include an explanation of how the LEA will provide training to enable teachers to address the needs of students with different learning styles, particularly students with disabilities, with special learning needs, including students with gifts and talents. (Section 2122(b) (9) (A)) (p. 210).

In Title V Promoting Informed Parental Choice and Innovative Programs Funds to LEA's shall be used for innovative assistance programs, which may include "programs to provide for the educational needs of gifted and talented children." (Section 5131(a)(7)). (Page 363). In subpart 6 Gifted and Talented Education Sections 5461-5466 is the Javits Act, which includes: National Research Center on the Gifted & Talented, National Demonstration, Grants program, Statewide Grants program (p. 409).

In Title VII Indian, Native Hawaiian, and Alaska Native Education. Part A Indian Education Subpart 3 National Activities Section 7134 is Gifted & Talented Indian Students (Page 510). Part B - Native Hawaiian Education Section 7205(a)(3)(E) is Gifted and Talented Native Hawaiian Students (p. 524).

The funds allocated under this section go to a special school for Native Hawaiian children who are gifted. Hawaii gifted and talented advocates might urge lawmakers to support funding for other programs that benefit gifted students. In Title X, Part C, Homeless Education requires LEAs that receive funds under the McKinney Act to provide homeless children services comparable to services offered to other students in the school, including programs for gifted and talented students (Page 584). Section 723(d)(2) LEA sub-grants Permits LEAs to use funds awarded through sub-grants from the state under the McKinney Act on expedited evaluations of the strengths and needs of homeless children, including needs and eligibility for gifted and talented programs and services (p. 588).

In 2004, the 108th Congress of the United States of America updated the Individuals with Disabilities Act, or IDEA. This federal law stated that:

(d) PURPOSES.—The purposes of this title are—(1)(A) to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living; (B) to ensure that the rights of children with disabilities and parents of such children are protected; and (C) to assist States, localities, educational service agencies, and Federal agencies to provide for the education of all children with disabilities; (2) to assist States in the implementation of a statewide, comprehensive, coordinated, multidisciplinary, interagency system of early intervention services for infants and toddlers with disabilities and their families; (3) to ensure that educators and parents have the necessary tools to improve educational results for children with disabilities by supporting system improvement activities; coordinated research and personnel preparation; coordinated technical assistance, dissemination, and support; and technology development and media services; and “(4) to assess, and ensure

the effectiveness of, efforts to educate children with disabilities. (p. 5)

Educators have struggled with balancing and aligning the regulations of both NCLB and IDEA. According to Johns (2003):

It is most difficult over the long term to be both "equal" and "unequal" at the same time. IDEA allowed (even demanded) unequal treatment. It demanded individualization—not one size fits all. NCLB demands equal treatment with once-a-year tests in reading and math as the measuring instrument. IDEA focuses entirely on the individual. NCLB focuses entirely on the group (on all those with disabilities). (p. 89)

This has led to frustration among educators given the dichotomy of teaching individual students versus a group of students.

Funding

Brown, Avery, and VanTassel-Baska (2003) from the Center for Gifted Education at the College of William and Mary conducted an in-depth review and comparative analysis of state policies that pertained to or impacted gifted education. This study included funding comparisons. The study was conducted to determine which states were found to have superior gifted programs based upon stringent criteria. The authors, along with key personnel of the Ohio State Department of Education, agreed on a defined set of criteria that would be used to determine the effectiveness of the programs. These criteria were:

(a) existence of a full-time state director, (b) gifted education legislation and/or mandate, (c) comparability of funding, (d) access to state level personnel and documents, (e) perceived by experts in the field as a “best practice” state, and (f) comparability across states in terms of local control. (p. 2)

Based on these criteria, the following states were selected: Indiana, North Carolina, Pennsylvania, South Carolina, and Virginia.

Glass (2004) identified funding for gifted education as meager and determined that at the state level, gifted programs were underfunded. According to Glass, the federal government also underfunded gifted education. Baker and Friedman-Nimz (2003) stated, “Similar to services for children with disabilities, and in some cases under the same state policy umbrella, funding for gifted education programs was provided through one of five methods” (p. 538). According to

Baker and Friedman-Nimz (2003), the first method used pupil weights in which supplemental funds were allocated according to a weighted per-student calculation. The second method provided flat grants that were based on a fixed funding amount per student. These funds could be allocated either by identified student or by the total student population. The third method was resource based and allocated funds for specific educational resources, teaching staff, and classroom units. The fourth method used percentage equalization; this is a percentage reimbursement system. Under this system, the amount of state supplemental aid a school system received was based on the prior year's expenditures for the program. The final method was through discretionary grants. School systems submitted applications to the state and were awarded the grants on a competitive basis (Baker & Friedman-Nimz, 2003).

Various states have been particularly active in meeting gifted students' needs. In Indiana for example, the state provided an annual appropriation to encourage school corporations or districts to identify and serve this class of exceptional learners. In turn, 97% of the corporations or districts in Indiana offered some level of programming. According to the Davidson Institute for Talent Development (2004), \$5,820,260 was allocated in the 2003-2004 school year for gifted and talented programming and 1,993 schools received public funding. Swanson (2002) stated in his report that Indiana received \$4,800,000 in 2002 slated for gifted education. This state then used a formula based on \$14,000, plus the district enrollment.

In North Carolina, on the other hand, the funding for gifted education was separated into two categories. The first category dealt with the special needs population and the other with the academically or intellectually gifted population. According to Brown et al. (2003), funds allocated for the academically or intellectually gifted could only be used:

(a) for academically or Intellectually Gifted or AIG students, (b) to implement the plan, or (c) in accordance with an accepted school improvement plan as long as the district has provided all of the services for which it committed in the local plan. (p. 32)

Swanson's (2002) survey reported that in 2002, North Carolina spent approximately \$49,000,000 on gifted education. In Swanson's (2002) survey, Pennsylvania reported, "There is no specific funding for gifted education. School districts may use a portion of regular education

subsidy, state subsidy for special education (no federal monies), and local tax revenues. There is no formula or spending requirement” (p. 54). According to the Davidson Institute for Talent Development (2004), during the 2002-2003 school year, there was no specific funding for gifted education reported for Pennsylvania. The *Javits* Grant did provide funding for rural gifted education initiatives in Pennsylvania. In the 2001-2002 school year, Pennsylvania was allotted \$2,492,000 for gifted and talented programming (Davidson Institute for Talent Development, 2004).

Over the past 15 years, state resources in South Carolina have been used to strengthen services in both the gifted and talented categories. However, the proportion of the funding favored the academic or intellectually gifted learners. South Carolina was the only state examined that targeted a specific portion of the annual allocation to the artistically gifted (Brown et al. 2003). Swanson (2002) reported that in 2002, South Carolina received \$29,000,000 for gifted students. Swanson (2002) gave the following information from the survey:

GAT (gifted and talented) academic funding: Each identified child generates funding in the amount of .30 times the students base cost. However, the state does not fully fund the program. Thus, the available funding is allocated based on the number of students reported divided by the available funds. Any district identifying fewer than 40 students receives \$15,000. The program operates at approximately 66% of what it would take to fully fund the program. GAT artistic funding is based on the average daily membership of a school district divided into the available funds. (pp. 54-55)

Brown et al. (2003) described funding for the State of South Carolina:

The stated formula for funding appears to be tied to the numbers of gifted students served in relation to the total state gifted population. In this case, districts that have larger numbers of students qualifying for service receive increased dollars. A minimum allocation is in place for small districts, but there does not appear to be any weighting based on district wealth. The separate funding for the Governor’s Schools is also a positive feature of this state’s model, although this is not unique. (p. 55)

According to the Davidson Institute for Talent Development (2006), \$37,575,798 was allocated for South Carolina's gifted education during the 2005-2006 school year.

Swanson (2002) reported that, in 2002, the state of Virginia spent \$34,000,000 on gifted education. A few brief comments outlined the procedure, “Two sources: (1) Part of Basic Aid (percentage support for one teacher's salary per 1000 students) and (2) Specific funds for the

Virginia Governor's School program" (Swanson, 2002, p. 55). According to the Davidson Institute for Talent Development (2006), \$32,009,855 was allocated to Virginia's gifted and talented program, for the 2003-2004 school year.

Calls to Action and Mandates

Baker (2001) discussed raising awareness concerning the distribution of opportunities and the needs of gifted children and how public educators had responded to these problems based on measures and perceptions. Policy makers, intent on raising the basic levels of opportunity, often did not consider the expanded ceiling needed for gifted and talented students. Baker pointed out that diverse student strengths and diverse intellectual abilities should be accommodated by all levels of policy makers.

According to Schneider (2006), legislative mandates linked to accountability can have a positive impact on the education of the gifted. The crucial point was the recognition of the need to optimize learning as a key pillar in the school improvement process. Baker and Friedman-Nimz (2002) suggested the need for state level grassroots mandates as opposed to federal mandates to meet the programming needs of gifted students. Brown, Avery, VanTassel-Baska, Worley, and Stambaugh (2006), in their "Five State Analysis of Gifted Education Policies," reported finding inconsistencies and variations among the states' policies regarding gifted education. These inconsistencies were a cause for concern according to the authors. Gallagher (2006) stated, "By far, the largest amount of legislation concerning the education of gifted students can be found at the state level because the states are largely responsible for education in general" (p. 209).

National Reports

According to Weber (1999), the report, *National Excellence: A Case for Developing America's Talent*, was published in 1993. This was the second national report on the status of gifted education in the United States. Roberts (1999) stated, "This report, issued in 1993, has

once again focused attention of educators and the public on *'the quiet crisis'* in which the needs of gifted children and youth are either not addressed, or are met in a fragmented way" (p. 56).

Roberts went on to state, "The recommendations of National Excellence has provided a blueprint which states have used in expanding their definitions of children who are gifted and talented and describing the services they should receive" (p. 56).

In an executive summary, Colangelo et al. (2004) discussed why schools, parents, and teachers had not accepted the idea of acceleration. Their summary presented six reasons why schools held back America's brightest students:

1. limited familiarity with research on acceleration; i.e.: grade or subject advancement,
2. philosophy that children must be kept with their age group,
3. belief that acceleration hurries children out of childhood,
4. fear that acceleration hurts children socially,
5. political concerns about equity, and
6. worry that other students will be offended if one child is accelerated. (p. 53)

However, not all researchers supported these reasons for the lack of providing appropriately for these students (Colangelo et al.).

School Reform

School reform has also played a major role in making educators and politicians aware of the need to realign the curriculum in order to best serve students' differentiated needs. Coleman (1999) stated:

Perhaps the most important influence of the reform movements on gifted education was to provide a wake-up call. This wake-up call forced the field to pay attention to general education and to re-think the role of gifted education within the context of education at large. No longer could we survive as an isolated, noncurriculum based, "add-on" to general education. This rethinking forced our field to make some changes. We have had to become more accountable. We have had to become more collaborative-working with general education and we have had to rethink access to gifted education services to ensure that students who need differentiation are not excluded. (p. 19)

Imbeau (1999) further reported, “The new curriculum standards movement has further influenced the education of the gifted by providing a national benchmark by which specific knowledge and skills should be achieved” (p. 43). School reform also brought new teaching techniques and ways to “handle” gifted students. These techniques included grade skipping, differentiated curriculum, Governors’ Schools, and talent search programs (Cross, 1999).

Tomlinson et al. (2002), authors of *The Parallel Curriculum*, described the need to explore the similarities and differences in a curriculum for all learners including gifted learners. These authors explained:

In the past, gifted education (at least in rhetoric) has taken a more constructivist approach to curriculum and instruction for gifted learners than has general education, which predicted curriculum largely on a behaviorist view. Based on profiles of high-ability learners and a sense of what it meant to be responsive to those profiles, the field of gifted education advocated curriculum rooted in discovery, manipulation of ideas, integration of subjects via exploration of common themes, a product orientation, and so on. In general education, careful presentation of materials for practice and replication by students was the order of the day. (pp. 3-4)

Tomlinson et al. (2002) were among the country’s leading researchers and advocates for the education of gifted students. It was their contention that a gifted curriculum should be rooted in an established, good curriculum. Secondly, the boundaries between high quality curricula for all learners versus gifted learners were blurred because of the developmental and experiential variance among learners. In developing these curriculum designs, the focus should be on a high-quality curriculum for all learners and at the same time attendance to the specific needs of students of advanced potential (Tomlinson et al.). Brown et al. (2003) reported the following information about school reform legislation in Indiana, South Carolina, and Virginia in their five-state analysis. Systemic educational reform in Indiana included “appropriate educational experiences for high ability and gifted students in the four core curriculum areas on a K-12 basis” (p. 25). In South Carolina, the educational reform agenda was “addressed in terms of identification practices, curriculum requirements and expectations, and student and program accountability” (p. 55). The state of Virginia’s approach to reform has been to “amend the

Standards of Accreditation and the Standards of Quality rather than to introduce a new piece of stand-alone legislation” (Brown et al., 2003, p. 65).

International, National, and State Organizations

The work of national organizations has increased tremendously the awareness of gifted education as well as curriculum development and funding. The development of the World Council for Gifted and Talented Children brought together a multitude of perspectives from around the world regarding giftedness. According to Haensly (1999), in 1975, Harry Passow and Henry Collis arranged the first preconference or meeting of people from all countries interested in promoting gifted and talented education. From this meeting, the World Council for Gifted and Talented Children was propelled into an organization that has brought educators, scholars, and researchers together from all over the globe to share ideas. In addition, Cross (1999) reported:

Another recent event that has had an impact on gifted education has come from the confluence of several situations. The funding of Jacob Javits legislation along with the subsequent birth of the National Research Center on the gifted and talented have brought increased attention to the needs of gifted students. Increased research and publications have also been an important byproduct of these events. At the same time, the National Association for Gifted Children and the Council for Exceptional Children’s Division—The Association for the Gifted, have joined together to influence politicians about the nature and needs of gifted students. These two groups have also worked in collaboration with numerous other important professional educational groups to try to influence the national educational agenda relative to gifted education. (p. 24)

Other organizations at a more local level such as the Tennessee Association of the Gifted (TAG) and the Tennessee Initiative for Gifted Education Reform (TIGER) (2007) have been comprised of advocates for the intellectually gifted. These groups have represented administrators, teachers, parents, and college professors who have worked together to improve the education of the gifted. The National Association for Gifted Children (2007a) defined TAG as:

. . . a nonprofit support group of educators, parents, and other concerned citizens united in advocating for appropriate educational opportunities for gifted, creative, and talented youth in Tennessee. TAG is a State Affiliate of the National Association for Gifted Children. (n. p.)

The Tennessee Initiative for Gifted Education Reform (2007) organization was self-defined as:

TIGER is a nonprofit corporation organized to support or initiate efforts that protect and increase educational opportunities for gifted children in Tennessee in all educational environments including public schools, private schools, charter schools, home schools, and colleges. (p. 1)

These organizations have been essential to the promotion of gifted education as well as for keeping educators and parents informed of current legislation, trends, and academic resources.

Multiple Criteria

Frasier (1997) defined multiple criteria as:

The process of obtaining comprehensive information about a student's ability by gathering and interpreting results from: standardized measures of aptitude, achievement, and creativity; observations by teachers, parents, the student, and others ... and standardized evaluations of student products and performances. (p. A-4)

Multiple-criteria identification of gifted students has been important because it addresses the complex and multiple intelligences of gifted students. This process identifies a multitude of ways in which a student's gifts might be revealed. By using more than one data source and creating a profile of abilities, an evaluator has been able to better identify a gifted student (Frasier, 1997). Multiple-criteria could prove to be an invaluable procedure that might ensure the identification of gifted students for program services. However, as pointed out by Frasier, this approach will only be valuable if the school administration, teachers, and counselors are interested in identifying and nurturing a gifted student.

According to Krisel (1997), the identification of students in Georgia has been based upon multiple-criteria. This multiple-criteria approach included identifying students for gifted services if they demonstrated outstanding ability in three of four categories. The four categories for multiple criteria in Georgia were mental ability, creativity, achievement, and motivation.

The student identification process in Pennsylvania was one of the narrowest and most procedurally rigorous of the identification or placement systems studied in the Brown et al. (2003) report. According to the report:

The emphasis in the mandate is on the mentally gifted student and the intent is to focus on the child with an IQ of at least 130, plus or minus testing error. Screening must include extensive outreach and multiple measures to assess student ability and performance. No single test score ensures or precludes eligibility for services. The determination must include an assessment by a certified school psychologist. A separate team is convened to conduct the multidisciplinary evaluation, and parents are included on this team. As a result of this process, about 4% of the total student population are identified as gifted. (p. 44)

Once the students are identified as gifted, the district must assemble a team to develop the student's Individualized Educational Plan. According to Brown et al. (2003), these educational plans must include:

Diagnostic information, annual goals and short-term outcomes, a description of the instructional and support services to be provided, dates for service, and assessment criteria and procedures. These plans must "go beyond the general education program" of the district and must ensure that the student "will benefit from the rate, level, and manner of instruction." Specific teacher/child ratios for individual teacher caseloads and class sizes are also delineated. (p. 44)

Program Designs

According to Coon (2004), the trigram gifted program model was a three-prong mode of delivery that included all students in the educational setting: (a) the general population, (b) special education students, and (c) gifted students. The trigram gifted program began in a mixed rural and suburban middle school. Renzulli's (1986) triad model was used to ensure a more accurate identification of gifted students who were creatively as well as academically talented. Coon (2004) described the first level or prong of the model:

The first level of this model is the extended studies level. It is described as a pull-out system for one week during the gifted students' related arts classes. At this level, the gifted students participate in a month long rotation of independent research, community problem solving group project, philosophy, creative drama, and a choice day. (p. 22)

The second prong or level of the trigram model was enrichment (Coon, 2004). During the enrichment level, the gifted students as well as the above average achievers were grouped for science, social studies, and language arts instruction. According to Coon (2004), "These three content areas are compacted into four days by the regular classroom teachers" (p. 23). On the

day of enrichment, the gifted teacher rotated through the classrooms to conduct the classes. The focus of the class was a *Future Problem-Solving* competition. The students were divided into four-person teams to conduct extensive research on four or five future problems during the school year. Examples of research topics might have been e-commerce or nanotechnology. During the enrichment level they were introduced to three commercially sold academic games: “*Equations, Linguistics, and Mr. Presidents.*” The students trained all school year to compete in a county-wide competition based on these games (Coon, 2004).

Coon (2004) described the third and final level of the trigram as the "All School Program" (p. 24). At this level, the general population of the school took part in the gifted program. The gifted teacher scheduled a time every 9 weeks to go into the classrooms and teach math, language arts, and social studies. This was a time when neither the gifted nor the above average achieving students were able to take part in the gifted program. Academic games were introduced and students took part in school competitions. This school-wide program had several benefits for the students and the teachers. The activities in the program illuminated hidden potential in the students who would otherwise have remained hidden. This program also fostered an acceptance of all academic levels and reduced tendencies to label students and peers (Coon, 2004). According to Coon (2004), "The goal of trigram is to develop the affective and cognitive abilities of all students in the school" (p. 24).

Grouping and Clustering

Winebrenner and Devlin (1998) defined a cluster group as a group of five to eight gifted students who were in the top 5% of the grade-level population. These students were clustered or grouped into one classroom with a qualified teacher who had received specialized training to instruct exceptionally bright students. The remainder of the class was of mixed abilities. Cluster grouping was acceptable in all grade levels and subject areas. If there were more than 8 to 10 gifted students eligible for clustering, then two or more clusters would be created. Winebrenner

and Devlin noted that these students should be identified based on standardized test scores as well as other criteria that demonstrated the student exceeded the grade level parameters.

Grouping or cluster grouping of gifted students was also suggested as a feasible approach for the delivery of gifted instruction according to Colangelo et al. (2004). Rogers (2002) pointed out:

The question for most able students is whether they are better served in a mixed-ability classroom or group, where students of all ability levels cover the same material at the same pace, or through grouping within or across classrooms that separates children based on ability. (p. 102)

Rogers concluded, “There is nothing in the research at present to suggest that not grouping by ability is more effective or appropriate for any level of ability or achievement” (p. 102).

Glass (2004) discussed flexible grouping, in relation to *No Child Left Behind*, as being based on the personal and academic potential of the child. This was augmented by curricula stressing stimulation and high expectations that fostered the development of talents and abilities.

A nongraded or multi-aged classroom is also an option for gifted students. According to Evanshen (2001):

A nongraded elementary structure can enable a child to learn at a pace that is right for them [sic], ultimately resulting in success. As educators, it is our job to create safe, supportive, enriching environments, for students to experience a developmentally appropriate integrated curriculum. We now have factual brain research to substantiate our previous thoughts on why integration is so critical for learning. It is through this hands-on, cooperative approach focusing on continuous progress for the learner that we will reach our goal of student academic and social success for all. (p. 70)

Pull-Out Programs

Shaunessy (2003) listed the pull-out program as one optional placement to meet the unique learning needs of gifted children. Smith (2005) suggested that a pull-out program could be implemented by pulling the students out of class in 2-hour blocks, half-day blocks, or whole-day blocks in gifted centers. The challenge facing these students has been managing the work missed while attending the gifted program. Administrators, regular classroom teachers, and gifted-students' program directors need to design a program that is practical for all parties.

Plucker (1998) pointed out that even though gifted programs were viable, the commonly used pull-out program model was not optimal. He suggested that alternative programs should be put into place to supplement the regular classroom setting such as self-study, weekend and after-school programs, summer courses, flexible schedules, and distance education. Winebrenner and Devlin (1998) stated, "Often, the highest ability students are expected to 'make it on their own'" (p. 1). According to Archambault et al. (1993), results from their national survey indicated, "Third- and fourth-grade teachers make only minor modifications in the regular classroom curriculum to meet the needs of gifted students" (p. 1). Ware (1990) suggested that summer programs designed to be "pressure-free" (p. 1) should be provided in a noncompetitive environment. Students could work with adult mentors in the subject area in which they were interested and receive validation among their peers. Such experiences might encourage bonds to be formed based upon common interests, and teamwork skills could be honed (Ware).

Residential and Governors' Schools

Residential schools for high school students have come about in several states during the last 20 years. Roberts (1999) characterized the rationale behind residential schools:

The rationale behind residential schools recognizes that some students are ready for, and need more advanced learning opportunities than others who are the same age. These schools provide evidence that the "least restrictive alternative" for many exceptional children may be the regular classroom; however, "the least restrictive alternative" for young people with advanced abilities or talents may be to learn together in a special school with others who share their interests and who have similar abilities. (p. 54)

Residential schools allow students from different states to come together to learn at challenging levels that encourage the brightest students to make continuous progress. The schools usually focus on "mathematics, science, and visual performing arts" (Roberts, p. 49).

In addition to state-mandated programs, states also have regional infrastructures that support local program development as well as leadership that is provided by the state department of education. The local or regional centers and libraries have additional full-time staff committed to gifted education. According to Brown et al. (2003):

Indiana also has a residential academic-year academy for science, mathematics, and humanities that serves 300 11th- and 12th-grade students annually, but it is funded through a line item in the Ball State University budget and does not come through the department of education appropriation. (p. 24)

In North Carolina, the state provides funding for the Governor's School for the Gifted that serves over 800 students per year. Brown et al. (2003) pointed out, "This is the oldest program of its kind in the country, begun in 1963, and the current appropriation in the amount of one million dollars has been relatively stable for a number of years" (p. 26).

The first four Governor Schools in Virginia were established in 1973. Currently, Virginia has established over 40 Governor Schools. Funding for these programs are separate line items in the budget (Brown et al., 2003).

Inclusion

Differentiated Learning

North Carolina's regular classroom teachers have the responsibility to differentiate instruction for gifted learners. Placement criteria might include aptitude, achievement, standardized tests, classroom performance, student motivation products and abilities, and teacher observation and recommendation (Brown et al., 2003). The Charlotte-Mecklenburg school district's gifted program in North Carolina used the Multiple Intelligences (MI) theory to identify younger students using a problem-solving approach based on Gardner's (1983) theory. This school system also incorporated Multiple Intelligences by creating problem-centered and challenging classrooms. According to Fasko (2001), these types of classrooms broaden the students' conceptual comprehension by participating in meaningful problem-solving activities that stimulate creative and critical thinking in second through fifth grades.

North Carolina introduced and defined the term Differentiated Education Plan or DEP as:

The DEP should be completed for each student for each phase of the educational spectrum and should list the learning environment, content modifications, and special programs available to the student. An *Individual Differentiated Plan* should be developed for students who demonstrate outstanding intellectual gifts but do not meet the criteria for the DEP. Yearly performance reviews are strongly recommended and the

decision for continuation in a program should be based on the student's performance. (p. 29)

Differentiated instruction also played a significant role in how gifted students were taught. Renzulli, Gubbins, and Koehler (2003) observed, "Differentiation of curriculum and instruction as a response to student interest is linked to motivation, short- and long-term impacts on learning, productivity, achievement, creativity, student autonomy, acceptance of challenge, and persistence with tasks" (p. 111). These authors stated that differentiated instruction and curriculum was used in response to student readiness, interest, and the push for independence.

According to Dennis (2001), Pennsylvania's, Basic Education Circulars (BEC) were defined as "The official means used by the Pennsylvania Department of Education to communicate with school districts" (p. 6). Unless adopted and published in the Pennsylvania Bulletin, BECs were only informational and advisory and were not binding on local school districts. The BEC for gifted students has clarified what is and is not appropriate for gifted students. For example, peer tutoring, extra work, or helping the teacher did not represent gifted education. Brown et al. (2003) stated, "Early graduation, dual enrollment, and testing out are addressed as considerations that districts should undertake. The state also has a written policy that allows districts to determine if they can support early entrance to kindergarten" (p. 45).

According to Brown et al. (2003), the BEC "addresses the educational reform chapter of the legal framework and instructs districts to reorganize curriculum standards and testing opportunities across grade levels as necessary to meet the advanced learning needs of this population" (p. 45). Brown et al. (2003) went on to say, "This powerful blend of individual and program standards for gifted education and the explicit integration of the gifted child's needs with the educational reform agenda are impressive and quite thorough" (p. 45).

Accelerated Study

VanTassel-Baska (2005) suggested that because students learned at different rates and levels, the use of accelerated study had resulted in a diagnostic curriculum that was prescriptive

at a slightly higher level. Accelerated study could include early entrance for young children who are prepared to enter school at a younger age and might accommodate high school students who are academically prepared for college via an early exit procedure (VanTassel-Baska).

Content-based acceleration is focused on all subject areas at all grade levels. According to VanTassel-Baska (2005), the students in secondary programs were offered Advanced Placement courses. This also could include dual enrollment courses offered in conjunction with local colleges or universities. Dual enrollment course enables a student to attend college classes while still enrolled in high school. These college classes will then be credited toward attending a college (VanTassel-Baska).

Grade Advancement

Another alternative for gifted instruction has been through grade advancement.

Feldhusen, Proctor, and Black (2002) stated:

Grade advancement is a legitimate and valuable method of meeting the needs of some intellectually or academically gifted students. Grade advancement is a way of bringing some gifted and talented children up to a level of instruction closer to their levels of achievement and pace. (p. 25)

According to Brown et al. (2003), identified gifted students in North Carolina are sometimes served through grade acceleration. Among the initiatives designed to reinforce and strengthen the quality of education for high ability learners has been the high school-to-community college agreement that allows students with a grade of B or better to enroll in the community college within 2 years of their graduation date. The aim of this agreement is the fluid transition of these students from secondary to post-secondary education (Brown et al., 2003).

Grouping by Ability

Grouping by ability has emphasized similar ability level peer interaction to strengthen comparable abilities and effectively organize a variety of developmental ranges. Groupings might be by subject, talents, and ability. Mastery beyond general competencies and increased

ownership might be the reward of ability grouping (Glass, 2004). Boaler (2008) promoted two central points:

The first is that equity should not only be measured by test scores but we need to consider the respect and relations that develop between students of different circumstances. The second is that some routes to equity are not found within the content of curriculum. (p. 26)

In contrast, Neihart (2007) pointed out some concerns, “Although the academic gains associated with acceleration and peer ability grouping are well documented, resistance to their use for gifted students continues because of concerns that such practices will cause social or emotional harm to students”(p. 330).

Computer-Aided Instruction

“Technology is with us,” stated Stewart (1999, p. 36). As in most areas of education, technology has played a significant role in changing gifted education through the use of the personal computer. Imbeau (1999) stated:

...personal computers have allowed everyone access to information at a rate that was inconceivable a few years ago. This has allowed young people from the most remote area of the globe to communicate with professionals everywhere. Students are able to study alongside scientists conducting research, respond to ideas and writings, present information to others, and develop new uses of technology. (p. 43)

At a simple level, Computer-Aided Instruction (CAI) might provide moderate support for gifted and talented program goals. At a higher level, with instruction, students are capable of conducting research and applying complex reasoning skills. According to Jones (1990), the research could consist of simulations and real-world problems that become fun and challenging. Technology has touched many aspects of students’ daily lives both academically and socially. Technology has allowed gifted children to branch out and locate other children with whom they identify to communicate with on a level playing field. Riley and Brown (1998) suggested that technology had great potential for use in gifted education. According to Riley and Brown:

In sum, the combination of talent, teachers, and telecommunications has tremendous potential in the education of gifted students. The workshop illustrates that such an approach to education does not occur by chance. It requires careful planning and timely

intervention by specialized teachers. Taking a cruise down the information superhighway may unveil more mysteries than answers ... especially in regard to identification, provision, and teaching of gifted children ... but we are certain it's a route worth taking! (p. 33)

Technology has been used also as an avenue of acceleration in the curriculum.

VanTassel-Baska (2005) discussed on-line courses that could be tailored to younger students. These on-line classes could provide gifted students with an opportunity for independent study with university faculty that might allow them to conduct research and branch out globally. This could provide an outlet for students to learn beyond the classroom. Several universities around the United States have made these courses possible. Among these universities are Stanford University in California, Ball State University in Indiana, Northwestern University in Illinois, Johns Hopkins University in Maryland, and Duke University in North Carolina (VanTassel-Baska).

Tennessee Gifted Trends

Under the Tennessee State Department of Education (2002) guidelines, the term intellectually gifted has been defined thusly: "Intellectually gifted refers to having intellectual abilities and potential for achievement so outstanding that special provisions are required to meet the child's educational needs" (p. 6). The criteria for eligibility for services have been based on evaluation in four component areas: academic achievement, creative thinking, academic performance, and cognition. Achievement was defined as (a) having a large storehouse of information on school or nonschool topics, (b) a history of outstanding achievement as evidenced by grades and standardized test scores, and (c) an evidence of desire to learn. Creative thinking was defined as (a) having effective strategies for recognizing and solving problems--usually a keen sense of humor (gentle or hostile), (b) frustration with traditional thinking, and (c) intense (sometimes unusual) interests. Cognition was defined as being highly expressive and maintaining effective use of words, numbers, and symbols. The last area concerned children's logical approaches to figuring out solutions and their impatience with repetition (Tennessee State Department of Education).

The guidelines for Tennessee included the following options: Option 1A requires a 130 IQ and a very high achievement test subscore (96th percentile). Option 1B requires a 130 IQ and two of the following: high achievement test subscores (two subscores at 90th percentile) or high scores in academic performance or creative thinking. Option 2 requires an IQ of 123 and two of the following: high achievement test subscores (two subscores at 95th percentile or three subscores at 90th percentile) and high scores in academic performance or creative thinking. Option 3 requires three of the following: an IQ of 118, very high achievement test subscores (three subscores at 95th percentile or four subscores at 90th percentile), and high scores in academic performance or creative thinking (Tennessee State Department of Education, 2002).

The Tennessee State Department of Education (2002) described the referral process for Tennessee students:

A screening team of educational professionals considers screening information, previous evaluations, and parent/teacher input to determine if a comprehensive evaluation is needed. The team's decision is based on multiple data scores. The assessment team will determine the types of assessment needed. All procedural safeguards are followed to ensure evaluation procedures are non-discriminatory. (p. 53)

Gifted students in the state of Tennessee are categorized under the umbrella of children with disabilities. The Tennessee Advisory Council for the Education of Students With Disabilities (2004) in their annual report listed the following school years and population of identified gifted students: (a) 2000-2001: 19,224; (b) 2001-2002: 20,643; (c) 2002-2003: 19,924; and (d) 2003-2004: 20,282 (p. 9).

Tennessee Funding for Gifted Students

The only state funding specifically identified for gifted education has been the funding allocated to the Governor's Schools for gifted and talented high school junior and senior students (Tennessee Department of Education, 2004). Special education funding can be used for students who are identified as gifted provided they have an Individualized Education Plan (IEP). The resources allocated are determined during the IEP process based on individual student needs. There is not a set amount of money allotted per gifted student. Tennessee Code Annotated 02.1B

(2006) identified the intellectually gifted:

Child with disabilities means a child with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, specific learning disability, developmental delay, functional delay, and the intellectually gifted. (p. 523)

The responsibility for the free and appropriate public education (FAPE) of these identified students resides with the state, local government, and school districts including additional effort that may be required (Tennessee Code Annotated) . The state allocates funding to support, improve, and expand services to students with disabilities through the division of special education as a portion of the state budget (Tennessee State Board of Education, 2004). The special education budget for the special needs of gifted students also includes federal funds for specific programs and high-cost students. Federal programs Title V, Innovative Programs funds can be used by school systems to provide innovative programs in a number of areas including programs for gifted and talented students (Tennessee Department of Education, 2008a).

The Basic Education Program is the program used to determine the level of funding for each school system. The BEP components are the basis for calculating the level of funding; however, the specific levels of expenditure for each component are not proscribed by the BEP. The local school systems decide how funds will be spent based on their unique needs. There is no specific gifted line item within the BEP (Tennessee Department of Education, 2008a).

Some school systems or school boards specifically earmark money for gifted programs. The Board of Education for the Metro-Nashville School System allocated \$22,000 from their budget for materials for gifted education programs for 2007-2008. In addition to this allocation, the gifted department's faculty, staff, and parents held a fund-raiser to assist in purchasing instructional materials and equipment. The money that is received from the school board was used for operating the program as well as teacher training and professional development (V. Gregg, personal communication, March 25, 2008).

Tennessee Certification for Gifted Teachers

Certification of gifted teachers is another issue that needs to be addressed. Stephens (1998) discussed Georgia's gifted program and its guidelines for certification, "Certification is required of all gifted education teachers. The increased variety and size of the program has schools looking for qualified teachers of the gifted" (p. 2). According to the Tennessee Teacher Licensure Standards (Tennessee State Board of Education, 2006), the gifted endorsement was adopted October 22, 2004; this was numbered as 466 in the list of endorsements. State institutions had until September 1, 2006, to submit their programs for approval. Under the programs implementation standards section, it was stated, "The program of study in gifted education enables general education and special education teacher candidates to meet the performance standards of the gifted education endorsement" (p. 39). The educator must have also completed 15 semester hours to receive the endorsement.

According to Zirkel (2005) and Mike Copas, Gifted Coordinator, Tennessee Department of Education, Division of Special Education, Tennessee was one of nine states that placed gifted education under the division of special education (M. Copas, personal communication, March 26, 2008). As stated by Zirkel, "...Tennessee treats gifted students as a subgroup of students with disabilities, but the majority [Alabama, Florida, Kansas, Louisiana, New Mexico, Pennsylvania, and West Virginia] provides only limited separation and customization" (p. 231). Tennessee also placed the responsibility for programming at the local level; thus, Tennessee's local programming provided the option of early entrance for gifted students as a provision (Zirkel).

Existing Tennessee Gifted Programs

Tennessee has several gifted programs that are currently functioning across the state. Several programs were cited by the Davidson Institute for Talent Development (2004) and according to best practices mentioned in Brown et al. (2003), three school systems were

specifically addressed: Memphis City Schools, Metropolitan Nashville City Schools, and the Franklin Special School District.

Memphis City Schools has had a gifted program entitled Creative Learning in a Unique Environment (CLUE). Officials from Memphis City Schools (2007a) defined their program as:

An education program designed to meet the needs of academically talented and gifted students in the Memphis City Schools. The curriculum incorporates both group and individual strategies focusing on creative thinking, critical thinking, communication, leadership, group dynamics, and problem solving. (p. 1)

CLUE was based on a differentiated curriculum. Officials in Memphis City Schools (2007a) described it as:

The differentiated CLUE curriculum reflects modification of content, instructional strategies, the setting, and the products of studies. The focus of instruction is on the development of skills and techniques that teach the processes of thinking rather than the products of knowledge. (p. 1)

The mission of the gifted and talented program, as described by Memphis City Schools (2007b) is:

. . . to provide a nurturing, accepting environment where the unique intellectual, creative, social and emotional needs of gifted and talented students are fulfilled. Meeting these needs can best be accomplished through an individualized differentiated curriculum which will enable gifted and talented students to develop their potential and participate effectively in society as citizens and leaders. (p. 1)

The CLUE curriculum emphasizes that gifted students must actively participate in their own learning. Teachers are to be facilitators, guides, and confidants. Services for the gifted students are provided through three different models, as stated by Memphis City Schools (2007b):

1. Consult Service: This is provided by endorsed teachers of gifted to the homeroom teacher or to the student who is directly instructed by a teacher of gifted. Content is expanded within the parameters of the curriculum being taught.
2. Resource Service: Students leave the regular classroom at a preset time and are taught by a teacher of gifted students.

3. Advanced Classes: Students identified as gifted receive service in classes that offer advanced concepts in that discipline. (p. 2)

The Metropolitan Nashville Public School System has a gifted and talented program called Encore. According to the Nashville Area Chamber of Commerce (2007), “The Encore program is designed to assist these students by providing a curriculum that challenges them and encourages them to be responsible, resourceful, and productive throughout their lives” (p. 7). This program serves children from the ages of three through the sixth grade. In grades kindergarten through second grade, Encore classes meet for half a day a week in local schools. In grades three through six, the students meet in an Encore center. Because this is an optional program, parents are responsible for transporting their children to these classes. The philosophy of the Metropolitan Nashville Public School System (2005) has been:

The Metropolitan Nashville Public School System (MNPS) views gifted and talented students as those who demonstrate outstanding academic and intellectual ability, creative thinking, and leadership skills. MNPS is committed to providing services that nurture, challenge, and provide the opportunity to develop the potential of these high-ability students. (p. 2)

Eligibility for the Encore program was described by the Metropolitan Nashville Public School System (2005): “Students must score an aptitude/cognitive index of two standard deviations above the mean + the standard error of measurement (e.g., Otis-Lennon, SAGES-II) in conjunction with the previously met screening standards” (p. 8).

Another leader in gifted education in Tennessee has been the Franklin Special School District (2007). The Franklin Special School District’s gifted and talented philosophy has been:

The Franklin Special School District believes that gifted and talented students have unique academic and affective needs. The district’s administrators and teachers support the district belief statement that “*the unique intellect of every individual should be challenged.*” In keeping with this belief statement, the services for gifted and talented students must be responsive to the individual needs and must recognize the talents, challenges, and diversity of the district’s population. (n. p.)

The Franklin Special School District's vision for gifted education was specific and unique:

All students, including those identified gifted through the guidelines set forth by the state of Tennessee, will have access to instruction where instruction content, process, and product are adjusted in response to student readiness, interests, and learning profile

within their regular core subject areas. In addition, gifted and talented students will have access to a gifted and talented specialist and programs, regardless of their grade level or school assignment, to further support their unique academic and affective needs. (n. p.)

The Franklin Special School District (2007) described the instructional delivery for its program. There are four types of instruction offered per student need. A student could participate in one or more of the academic settings. These types of instructional delivery are:

1. **Teacher Consultation:** The Gifted and Talented Specialist (GTS) consults with the regular classroom teachers on an as-needed basis to provide input into the development of instructional lessons for the gifted student whose needs are being met in the regular classroom.
2. **In-class collaboration:** The GTS is used as an additional instructional resource in the regular classroom and team teaches along with the regular classroom teacher (e.g., to implement a specific tiered lesson or project).
3. **Talent Development Classroom:** The student is scheduled into the talent development classroom on a regular basis (e.g., every other day) to work on projects that may tie to the regular classroom, to participate in a self-designed project that will develop the student's talent, to interact socially with other gifted students.
4. **Individualized instructional Support:** The student receives his or her primary instruction from the GTS. This option is used only if the IEP team feels that the student's academic needs are so advanced that they cannot be met in the regular classroom in one or more subjects. (p. 1)

Summary

This chapter highlighted diverse areas of gifted education nationally as well as those areas in the state of Tennessee. Areas such as national and state organizations, legislation, funding, and school reform have impacted gifted programs across the United States. Through these mandates and organizations, gifted programs were formed. Teachers and administrators were then trained to educate children who were identified as gifted and talented through the

criteria of each individual state. Unfortunately, all states have had different criteria to identify these students and different approaches as to how best to serve their gifted and talented students. As a result, many diverse programs and solutions were developed.

CHAPTER 3

RESEARCH METHODOLOGY

Research Design

The purpose of this study was to examine public schools' gifted programs throughout Northeast Tennessee. The study focused on the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training.

The researcher sought to identify the differences in gifted programs throughout Northeast Tennessee using quantitative methods to analyze the data. Using descriptive research, an electronic survey was used to gather data concerning the structure of programs, funding, and what criteria are used to identify students as gifted. School systems individually designed programs in an effort to comply with the state standards as well as the funding guidelines. There might be vast differences encountered in the school systems studied. According to Gall, Borg, and Gall (1996), the use of a questionnaire in this type of research design is used extensively in educational research chiefly because it can amass information that is not directly observable such as attitudes, experiences, and feelings. For this study, the survey instrument was designed to provide data regarding the differences in gifted programs throughout Northeast Tennessee, a determination of students who are served, and the funding of the programs.

According to the Tennessee State Department of Education's (2002) report from the office of local finance concerning the standardized system of accounting and reporting, gifted education is referenced twice. The first gifted citation was referenced in the alternative school section of the report. It states, "Instructional programs for gifted students should be recorded in the Special Education Category" (p. 15). The second citation referred to the special education instructional program stating that the special education program includes activities for varying needs. The report states, "This includes educating the gifted and those with learning, emotional,

and physical disabilities. A student is educated based on an Individual Education Plan (IEP) developed by a team who addresses the particular needs of the student” (p. 17).

Population

The population of this study was the 84 principals of northeast Tennessee schools. The participants in this study were the 43 principals of kindergarten- through eighth-grade public schools who responded to the survey. The population used in the study was the elementary and middle schools in Northeast Tennessee School districts. The goal was to gather data from all kindergarten through eighth grade schools in northeastern Tennessee concerning their gifted programs. A letter was sent to the director of schools to gain permission to survey principals in grades kindergarten through eight. Each of the principals received an electronic survey (see Appendix A). The principals were chosen as a means to increase the response rate from each school system to obtain the maximum amount of information. Although gifted programs are under the umbrella of the special education director, the survey was sent to the principals to ensure that it would be answered based on individual schools’ program.

Data Collection

To preserve privacy and ensure protection of confidentiality for all participants, the researcher obtained approval from the Institutional Review Board (IRB) at East Tennessee State University prior to data collection (see Appendix B). The researcher obtained written permission to conduct this study from the director of each school system in northeast Tennessee (see Appendix C). When permission was granted by the director of schools, the researcher then sent a survey to the principals of all Northeast Tennessee schools in grades kindergarten through eight (see Appendix D).

A questionnaire comprised of 29 questions was developed, disseminated, and collected by the researcher based on related questionnaires, literature, texts, and through expert advice and consultation. The questionnaire was sent via e-mail accompanied by a cover letter (see Appendix A). The survey was sent to the participants with a request for a return date of

February 25th. A follow-up letter and another copy of the survey were sent to those who had not returned their survey following the deadline.

Instrumentation

The survey was separated into four categories: (a) improving education planning for intellectually gifted students; (b) program philosophies, theories, and objectives; (c) funding; and (d) professional development. In the first category, improving education planning for intellectually gifted students, 15 questions were asked using a Likert-like scale. The answer options were: strongly agree, agree, no opinion, disagree, and strongly disagree. In the category of program philosophies, theories, and objectives, there were three questions to be answered using the same options. In the area of funding, three questions were asked using the same options. Questions with a response choice of "yes" and "no" were also asked concerning, curricular experiences for the gifted students, curricular offerings, and dual-enrollment options. Four professional development questions were asked concerning program or system coordinators and serving the gifted within the regular instructional program. Finally, three open-ended questions were posed to acquire more information about positive aspects of the programs and the challenges the administrators face in their gifted programs. The final question was also open-ended encourage further comments.

Validity and Reliability

To ensure the content validity of the instrument in relation to the research questions of the study and to develop concise questions, the survey was reviewed by a school psychologist, a tenured special education teacher, and a retired gifted education coordinator. The survey was then revised according to the advice of the reviewers.

Data Analysis

The data attained from the questionnaires were analyzed using the Statistical Package for the Social Sciences (SPSS), Version 16.0. The researcher compiled the descriptive statistics to create a demographic profile of responses.

Summary

The purpose of this study was to examine public schools' gifted programs throughout Northeast Tennessee in the areas of: (a) education planning for intellectually gifted students; (b) program philosophies, theories, and objectives; (c) funding; and (d) professional development. The descriptive quantitative method involved surveying 43 participants. The methods of participant selection, data collection, and data analysis have been identified in this chapter. The results of the data analysis are presented in the form of frequencies and percentages of the responses from participants.

CHAPTER 4

ANALYSIS OF DATA

Introduction

Chapter 4 includes the results obtained from the data. The data were gathered using a quantitative survey. The purpose of the study was to examine public schools' gifted programs throughout Northeast Tennessee. The study focused on the process of gifted student identification, individual program requirements, funding of gifted programs, professional development, and advanced teacher training. The results are presented as answers to the research questions posed in chapter 1. The research questions are as follows:

1. To what extent are the gifted programs consistent within the districts of Northeast Tennessee in the identification and assessment regarding gifted education programs?
2. What are the program philosophies and instructional practices in Northeast Tennessee school systems regarding gifted education programs?
3. How is the education of gifted students in Northeast Tennessee funded?
4. What are the practices of professional development for teachers and administrators in Northeast Tennessee school systems regarding gifted education programs?

Survey Results

Data collected for this study were obtained from 43 surveys received out of 84 sent to principals in Northeast Tennessee. The study's population was preset to include the 17 school systems in Northeast Tennessee served by the Tennessee Department of Education, First Tennessee Field Service Office. Potential respondents were identified using the Tennessee Department of Education (2008b) School Directory. Seventeen directors of schools were contacted by email using an East Tennessee State University Institutional Review Board (IRB) approved cover letter requesting permission to survey their district's principals. Of those, 12

directors granted permission to survey their principals. Using the Tennessee School Directory from the Tennessee Department of Education (2008b) Website, 84 principals were then identified. The principals were contacted through email with an accompanying IRB approved cover letter ensuring them the survey would be confidential. The survey was conducted as an online, Web-based survey, hosted on the ZAPSurvey[®] web site. The principals' survey invitation email message contained an embedded web link to access directly the survey through the ZAPSurvey[®] Website. Follow up email messages were sent 3 days after the initial transmittal. School principals were contacted via telephone to culminate the data gathering.

Survey Responses

The survey was separated into the following categories: (a) education planning for intellectually gifted students; (b) program philosophies, theories, and objectives; (c) funding; and (d) professional development.

The first 18 survey questions were multiple-choice. The respondent answered by selecting one of five possible answers arranged on a Likert-type scale. The answer options were: strongly agree (SA), agree (A), no opinion (N), disagree (D), and strongly disagree (SD). The answer options were presented in the same order for all 18 questions. In the category of improving education planning for intellectually gifted students, there were 11 multiple-choice questions. In the category of improving education planning for intellectually gifted students, there were 12 multiple-choice questions. The category of program philosophies, theories, and objectives contained 2 multiple-choice questions. In the area of funding, 2 multiple-choice questions were asked. The final 2 multiple-choice questions were posed from the category of professional development.

The next section of the survey contained "Yes" or "No" questions. The yes or no questions were designed to be in the category of improving education planning for intellectually gifted students. These questions included curricular experiences for the gifted students, curricular offerings, and dual enrollment options. The next three questions were open-ended

questions, posed to acquire more information about positive aspects of the programs and the challenges the administrators might face in their gifted programs. The open-ended questions were designed to elicit responses that could be applied to the four research questions in this study. The final question was also open-ended to garner further comments.

The results of the survey were compiled into an Excel spreadsheet and imported into SPSS for statistical analysis. The statistical methods used to analyze the data were primarily descriptive. The answer options were assigned values of strongly agree = 1, agree = 2, no opinion = 3, disagree = 4, and strongly disagree = 5. The population of the study consisted of 84 elementary and middle school principals in Northeast Tennessee public schools. There were 44 respondents to the online survey and 1 faxed response resulting in 45 responses. The survey response rate was 54%. Two of the online survey responses were substantially incomplete and were excluded from the study. Forty-three substantially completed surveys were returned; however, some of the respondents chose not to answer some of the questions. The cut-point for exclusion from this study was <50% survey completion or 14 or fewer questions answered. The usable survey responses represented 51% of the study's population. The remaining 43 responses were statistically analyzed. The *N* value used in this analysis was the number of substantially complete surveys received. The terms total responses and responses indicate the actual number of survey answers received for a particular question.

The data revealed that 81.4% of the school systems in Northeast Tennessee have established gifted programs. Among those school systems, 95% tested their students using the Tennessee's state testing procedure. However, only 9.3% of the school systems were awarded grants to enhance their programs. The descriptive statistics for the survey questions are shown in Table 1.

Table 1

Response Rates for Survey Questions

Survey Question	# Responses	% SA or A	No Opinion	% D or SD
1. My school system has a written program statement that distinguishes between objectives of general mainstream education and objectives of programs for the gifted.	42*	54.8	14.3	30.9
2. In my school system, the program statement is consistently and pervasively utilized in program development.	42*	54.8	19.0	26.2
3. My school system's students are tested according to the state mandated testing procedure and requirements.	42*	95.2	4.8	0.00
4. My school system has a written philosophy for the gifted program.	43	53.5	27.9	18.6
5. My school system has an identified gifted program	43	81.4	2.3	16.3
6. My school system has written objectives for the gifted program.	43	62.8	16.2	21.0
7. In my school system, class placement of the gifted student corresponds to general abilities rather than to specific aptitudes and interests.	43	69.8	16.3	13.9
8. In my school system, the depth and focus of the activities in the program meet the special needs of identified gifted students.	43	62.8	21.6	15.6
9. In my school system, curriculum provides a balanced program of learning experiences that aid gifted students in the development of their social skills.	43	67.4	9.4	23.2
10. In my school system, a differentiated curriculum is provided for the gifted students.	43	60.5	13.9	25.6
11. In my school system, relevant curricular experiences are available for the gifted in academic subjects, visual and performing arts, and other areas relevant to high potential.	43	51.2	27.9	20.9
12. My school system provides additional instructional facilities and materials based on student and program needs.	43	58.1	23.3	18.6

Table 1 (continued)

Survey Question	# Responses	% SA or A	No Opinion	% D or SD
13. In my school system, the personnel organization of the gifted program consists of a group of responsible persons who exercise informal leadership.	43	51.2	32.5	16.3
14. In my school system, additional administrative services are needed with respect to responsibility to the program.	43	34.9	30.2	34.9
15. In my school system, financial support for the gifted program exists in a sufficient amount beyond average per-pupil costs.	43	37.2	21.0	41.8
16. In my school system, it is generally difficult to provide program teachers with appropriate materials and services necessary to implement the program.	43	41.9	25.5	32.6
17. My school system has been awarded grants to supplement gifted instruction.	43	9.3	43.5	47.2
18. In my school system, all general education teachers receive some in-service for gifted education.	43	32.6	18.6	48.8

*Questions 1, 2, and 3 each had 1 no response.

The data from the yes or no questions revealed that 92.5% of the respondents reported that their school system does offer dual enrollment for high school students. Regular education teachers were serving the gifted students in the regular mainstream classroom according to 90% of the respondents. In response to the question concerning searching for certified gifted education teachers, 55% reported that they will be looking for a teacher with this endorsement.

The descriptive statistics for the yes or no survey questions are shown in Table 2.

Table 2

Responses to Yes or No Survey Questions

Survey Questions	Responses	<i>N</i> Yes	% Yes	<i>N</i> No	% No
1. In my school system, curricular experiences for the gifted students are provided at all grade levels and at all schools.	41*	22	53.7	19	46.3
2. In my school system, curricular offerings for our gifted program are adequate.	41*	21	51.2	20	48.8
3. My school system provides high school students a dual enrollment option with a neighboring college or university for college credit.	40**	37	92.5	3	7.5
4. My school system has a program coordinator that is responsible for the effectiveness of the program.	40**	30	75.0	10	25.0
5. My school system has a coordinator	40**	30	75.0	10	25.0
6. Are teachers serving the gifted within the regular instructional program?	40**	36	90.0	4	10.0
7. My school system will be searching for certified gifted teachers based on the State of Tennessee's new gifted education endorsement.	40**	18	45.0	22	55.0

* Questions 1 and 2 each received 2 no responses

** Questions 3, 4, 5, 6, & 7 each received 3 no responses

Research Question #1

To what extent are the gifted programs consistent within the districts of Northeast Tennessee in the identification and assessment regarding gifted education programs?

According to the responses for survey statement 1, “My school system has a written program statement that distinguishes between objectives of general mainstream education and objectives of programs for the gifted,” 54.8% of respondents agreed with the statement. The findings showed that 30.9% of the respondents disagreed with the statement and 14.3% had no opinion. The highest frequency response was 16 in the agree category. The lowest frequency response was 3 in the strongly disagree category. See Table 3 for frequency data.

Table 3
Frequency Data for Survey Statement #1

	Frequency	Valid %
Strongly Agree	7	16.7
Agree	16	38.1
No Opinion	6	14.3
Disagree	10	23.8
Strongly Disagree	<u>3</u>	<u>7.1</u>
Total	42	100.0
No Response	1	

According to the responses for survey statement 2, “In my school system, the program statement is consistently and pervasively utilized in program development,” 54.8% of the respondents agreed with the statement, 26.1% of respondents disagreed with the statement, and 19% had no opinion. The highest frequency response was 18 in the agree category, and the lowest frequency response was 3 in the strongly disagree category. See Table 4 for frequency data.

Table 4

Frequency Data for Survey Statement #2

	Frequency	Valid %
Strongly Agree	5	11.9
Agree	18	42.9
No Opinion	8	19.0
Disagree	8	19.0
Strongly Disagree	<u>3</u>	<u>7.1</u>
Total	42	100.0
No Response	1	

In survey statement 3, “My school system’s students are tested according to the state mandated testing procedure and requirements,” 95.2% of the respondents agreed with the statement, 0% disagreed with the statement, and 4.8% expressed no opinion. The highest frequency response was 27 in the strongly agree category and the lowest frequency response was 2 in the no opinion category. See Table 5 for frequency data.

Table 5

Frequency Data for Survey Statement #3

	Frequency	Valid %
Strongly Agree	27	64.3
Agree	13	31.0
No Opinion	2	4.8
Disagree	0	0.0
Strongly Disagree	<u>0</u>	<u>0.0</u>
Total	42	100
No Response	1	

In survey statement 5, “My school system has an identified gifted program,” based on the responses, 81.4% of the respondents agreed with the statement, 16.3% disagreed with the statement, and 2.3% expressed no opinion. The highest frequency response was 19 in the agree category and the lowest frequency response was 1 in the no opinion category. See Table 6 for frequency data.

Table 6

Frequency Data for Survey Statement #5

	Frequency	Valid %
Strongly Agree	16	37.2
Agree	19	44.2
No Opinion	1	2.3
Disagree	4	9.3
Strongly Disagree	<u>3</u>	<u>7.0</u>
Total	43	100.0
No Response	0	

In survey statement 7, “In my school system, class placement of the gifted student corresponds to general abilities rather than to specific aptitudes and interests,” 69.8% of the respondents agreed with the statement, 13.9% disagreed with the statement, and 16.3% stated no opinion. The highest frequency response was 23 in the agree category and the lowest frequency response was 1 in the strongly disagree category. See Table 7 for frequency data.

Table 7

Frequency Data for Survey Statement #7

	Frequency	Valid %
Strongly Agree	7	16.3
Agree	23	53.5
No Opinion	7	16.3
Disagree	5	11.6
Strongly Disagree	<u>1</u>	<u>2.3</u>
Total	43	100.0
No Response	0	

In survey statement 8, “In my school system, the depth and focus of the activities in the program meet the special needs of identified gifted students,” 62.8% of the respondents agreed with the statement, 25.6% disagreed with the statement, and 11.6% had no opinion. The highest frequency response was 22 in the agree category and the lowest frequency response was 3 in the strongly disagree category. See Table 8 for frequency data.

Table 8

Frequency Data for Survey Statement #8

	Frequency	Valid %
Strongly Agree	5	11.6
Agree	22	51.2
No Opinion	5	11.6
Disagree	8	18.6
Strongly Disagree	<u>3</u>	<u>7.0</u>
Total	43	100.0
No Response	0	

In survey statement 9, “In my school system, curriculum provides a balanced program of learning experiences that aid gifted students in the development of their social skills,” 67.4% of the respondents agreed with the statement, 23.2% disagreed with the statement, and 9.3% had no opinion. The highest frequency response was 21 in the agree category and the lowest frequency response was 1 in the strongly disagree category. See Table 9 for frequency data.

Table 9

Frequency Data for Survey Statement #9

	Frequency	Valid %
Strongly Agree	8	18.6
Agree	21	48.8
No Opinion	4	9.3
Disagree	9	20.9
Strongly Disagree	<u>1</u>	<u>2.3</u>
Total	43	100.0
No Response	0	

In survey statement 10, “In my school system, a differentiated curriculum is provided for the gifted students,” 60.5% of the respondents agreed with the statement, 25.6% disagreed with the statement, and 14% had no opinion. The highest frequency response was 19 in the agree category and the lowest frequency response was 1 in the strongly disagree category. See Table 10 for frequency data.

Table 10

Frequency Data for Survey Statement #10

	Frequency	Valid %
Strongly Agree	7	16.3
Agree	19	44.2
No Opinion	6	14.0
Disagree	10	23.3
Strongly Disagree	<u>1</u>	<u>2.3</u>
Total	43	100.0
No Response	0	

In survey statement 11, “In my school system, relevant curricular experiences are available for the gifted in academic subjects, visual and performing arts, and other areas relevant to high potential,” 51.2% of the respondents agreed with the statement, 20.9% disagreed with the statement, and 27.9% had no opinion. The highest frequency response was 15 in the agree category and the lowest frequency response was 1 in the strongly disagree category. See Table 11 for frequency data.

Table 11

Frequency Data for Survey Statement #11

	Frequency	Valid %
Strongly Agree	7	16.3
Agree	15	34.9
No Opinion	12	27.9
Disagree	8	18.6
Strongly Disagree	<u>1</u>	<u>2.3</u>
Total	43	100.0
No Response	0	

In survey statement 12, “My school system provides additional instructional facilities and materials based on student and program needs,” 58.1% of the respondents agreed with the statement, 18.6% disagreed with the statement, and 23.3% had no opinion. The highest frequency response was 21 in the agree category and the lowest frequency response was 4 in the strongly agree category. See Table 12 for frequency data.

Table 12

Frequency Data for Survey Statement #12

	Frequency	Valid %
Strongly Agree	4	9.3
Agree	21	48.8
No Opinion	10	23.3
Disagree	8	18.6
Strongly Disagree	<u>0</u>	<u>0.0</u>
Total	43	100.0
No Response	0	

In survey statement 19, “In my school system, curricular experiences for the gifted students are provided at all grade levels and at all schools,” 53.7% responded yes and 46.3% responded no. The highest frequency response was 22 for the yes option. See Table 13 for frequency data.

In survey statement 20, “In my school system, curricular offerings for our gifted program are adequate,” 51.2% responded yes and 48.8% responded no. The highest frequency response was 21 in the yes category. See Table 13 for frequency data.

In survey statement 21, “My school system provides high school students a dual enrollment option with a neighboring college or university for college credit,” 92.5% responded

yes and 7.5% responded no. The highest frequency response was 37 in the yes category. See Table 13 for frequency data.

In survey statement 22, “My school system has a program coordinator that is responsible for the effectiveness of the program,” 75% responded yes and 25% responded no. The highest frequency response was 30 in the yes category. See Table 13 for frequency data.

In survey statement 24, “Are teachers serving the gifted within the regular instructional program,” 90% responded yes and 10% responded no. The highest frequency response was 36 in the yes category. See Table 13 for frequency data.

In survey statement 25, “My school system will be searching for certified gifted teachers based on the State of Tennessee’s new gifted education endorsement,” 45% responded yes and 55% responded no. The highest frequency response was 22 in the no category. See Table 13 for frequency data.

Table 13

Frequency Data for Yes and No Statements

Statement	Yes		No		Total	
	#	%	#	%	#	%
#19. Curricular experiences for the gifted students are provided at all grade levels and at all schools.	22	53.7	19	46.3	41*	100
#20. In my school system, curricular offerings for our gifted program are adequate.	21	51.2	20	48.8	41*	100
#21. My school system provides high school students a dual enrollment option with a neighboring college or university for college credit.	37	92.5	3	7.5	40**	100
#22. My school system has a program coordinator that is responsible for the effectiveness of the program.	30	75.0	10	25.0	40**	100

Table 13 (continued)

Statement	Yes		No		Total	
	#	%	#	%	#	%
#24. Are teachers serving the gifted within the regular instructional program?	36	90.0	4	10.0	40**	100
#25. My school system will be searching for certified gifted teachers based on the State of Tennessee's new gifted education endorsement.	18	45.0	22	55.0	40**	100

* Questions 19 & 20 each received 2 no responses

** Questions 21, 22, 23, 24, & 25 each received 3 no responses

Research question #1, To what extent are the gifted programs consistent within the districts of Northeast Tennessee in the identification and assessment regarding gifted education programs? The survey responses to the open-ended questions that were associated with this research question are listed below:

1. "The most positive aspects of the program are that there are creative, engaging lessons that direct learning."
2. "Algebra offered to gifted and regular ed. students"
3. "Seeing the gifted challenged more than they are in regular classrooms"
4. "Differentiated instruction and interventions available for all students"
5. "We are able to meet the needs of all students in our multiage program. Students are gifted in many areas - not just language or math or science - and we can meet those needs in any area because it is not designed to be a pullout program. Our parents are extremely happy when a child is identified gifted but the child's needs can be met in the regular program."
6. "Identifying gifted students"
7. "We do a good job identifying these students."
8. "The students are only served an hour per week."
9. "Providing programs for students who are gifted"
10. "Having a gifted teacher in our building who could pull out gifted students to meet their individual needs"
11. "Differentiated tasks and funding increases"

12. "Pullout classes for individual interest studies"
13. "More time in the school day to meet all students' needs"
14. "Increase service hours"
15. "More selective identification, more challenge classes offered at the elementary level"
16. "More gifted teachers, a better schedule, a place for them to meet"
17. "If we could use time before school for gifted pull out, it would improve the program. I would also like to see more collaboration between gifted students at other schools via web-based technology like Think.com"
18. "After-school and summer programs"
19. "Further opportunity to provide additional time to students"
20. "Our program only looks good on paper"
21. "The gifted program is a need in our school. It will be a component of our school improvement plan as we continue to strive for excellence."
22. "Often when educators think about NCLB, they do not think about the gifted being left behind. We do our brightest students an injustice by not providing individualized instruction that allows them to continue to grow intellectually."
23. "In defense of classroom teachers, NCLB and the standardized test scores make teacher feel pressured to teach to the standards. More attention is focused on students who are behind...to help them achieve the minimum score."

Based on the open-ended responses, some respondents expressed a need for differentiated instruction, whereas others reported that it was already in place in their school system. The respondents reported that program design was a challenge. The challenge was in the scheduling of classes and having a sufficient amount of time and staff to serve the students. Some respondents reported that not having a gifted program was a challenge. Funding, time, and staff were challenges. Identification of the gifted students was also identified as a challenge.

Research Question #2

What are the program philosophies and instructional practices in Northeast Tennessee school systems regarding gifted education programs?

For survey statement 4, "In my school system, the program statement is consistently and pervasively utilized in program development," 53.5% of the respondents agreed with the statement, 18.6% disagreed with the statement, and 27.9% had no opinion. The highest

frequency response was 15 in the agree category and the lowest frequency response was 3 in the strongly disagree category. See Table 14 for frequency data.

Table 14

Frequency Data for Survey Statement #4

	Frequency	Valid %
Strongly Agree	8	18.6
Agree	15	34.9
No Opinion	12	27.9
Disagree	5	11.6
Strongly Disagree	<u>3</u>	<u>7.0</u>
Total	43	100.0
No Response	0	

For survey statement 6, “My school system has written objectives for the gifted program,” 62.8% of the respondents agreed with the statement, 21% disagreed with the statement, and 16.3% had no opinion. The highest frequency response was 15 in the strongly agree category and the lowest frequency response was 3 in the strongly disagree category. See Table 15 for frequency data.

Table 15

Frequency Data for Survey Statement #6

	Frequency	Valid %
Strongly Agree	12	27.9
Agree	15	34.9
No Opinion	7	16.3
Disagree	6	14.0
Strongly Disagree	<u>3</u>	<u>7.0</u>
Total	43	100.0
No Response	0	

The survey responses to the open-ended questions that were associated with research question #2 are listed below:

1. "At my school the gifted students are appropriately placed based on their curricular needs and extensions are made to meet their individual needs."
2. "Students make use of the Internet."
3. "Offering different educational opportunities to enhance the learning opportunities for all students including gifted students."
4. "Adequately differentiating instruction is the biggest challenge. We are doing flexible grouping in grades 3-6 (at my school) but it is still difficult to provide truly enriching activities and projects for our gifted students for fear that they'll miss out on essential skills they'll need to do well on TCAPs."
5. "Giving these students a relevant educational experience"
6. "Program needs to be more varied, especially concerning instructional offerings"
7. "How to sufficiently expand the general ed. program in all classrooms to meet the needs of the learners"
8. "A more rigorous curriculum"
9. "Additional structure regarding the material and instruction at the school level"
10. "Make the criteria more challenging and offer more time to these students."
11. "Extra programs that allow gifted students to be creative and 'think outside the box' with like-minded students would be big help. Although we offer extra-curricular activities, none of them are gifted-specific."

12. "Once gifted students leave the elementary setting they are decertified from the special education program. Their needs are 'met' by their individual course selection."

Based on the open-ended responses, there was an expressed need for a more rigorous curriculum. There was a need to make the criteria more challenging. It was expressed that students needed to “think outside the box” and communicate with like-minded gifted students. In addition, the participants maintained that once the gifted students left elementary school, their gifted needs would be met in course selection while in middle and high school.

Research Question #3

How is the education of gifted students in Northeast Tennessee funded?

For survey statement 15, “In my school system, financial support for the gifted program exists in a sufficient amount beyond average per pupil costs,” 37.2% of the respondents agreed with the statement, 41.8% disagreed with the statement, and 20.9% had no opinion. The highest frequency response was 13 in the disagree category and the lowest frequency response was 4 in the strongly agree category. See Table 16 for frequency data.

Table 16

Frequency Data for Survey Statement #15

	Frequency	Valid %
Strongly Agree	4	9.3
Agree	12	27.9
No Opinion	9	20.9
Disagree	13	30.2
Strongly Disagree	5	11.6
Total	43	100%
No Response	0	

In survey statement 16, “In my school system, it is generally difficult to provide program teachers with appropriate materials and services necessary to implement the program,” 41.9% of the respondents agreed with the statement, 32.6% disagreed with the statement, and 25.6% had no opinion. The highest frequency response was 16 in the agree category and the lowest frequency response was 2 in the strongly agree category. See Table 17 for frequency data.

Table 17

Frequency Data for Survey Statement #16

	Frequency	Valid %
Strongly Agree	2	4.7
Agree	16	37.2
No Opinion	11	25.6
Disagree	11	25.6
Strongly Disagree	<u>3</u>	<u>7.0</u>
Total	43	100.0
No Response	0	

In survey statement 17, “My school system has been awarded grants to supplement gifted instruction,” 9.3% of the respondents agreed with the statement, 37.2% disagreed with the statement, and 53.5% had no opinion. The highest frequency response was 23 in the no opinion category and the lowest frequency response was 1 in the strongly agree category. See Table 18 for frequency data.

Table 18

Frequency Data for Survey Statement #17

	Frequency	Valid %
Strongly Agree	1	2.3
Agree	3	7.0
No Opinion	23	53.5
Disagree	11	25.6
Strongly Disagree	<u>5</u>	<u>11.6</u>
Total	43	100.0
No Response	0	

In survey statement 23, “My school system has a coordinator,” 75% responded yes and 25% responded no. The highest frequency response was 30 in the yes category.

The survey responses to the open-ended questions that were associated with research question #3 are listed below:

1. "Our district's gifted coordinator provides materials and advice to resource and regular ed. teachers to help them address the needs of gifted children."
2. "Providing the necessary materials to support the program"
3. "Space and the need for another teacher"
4. "We do not have money from the state to serve these students which makes it hard to hire personnel."
5. "Funding and rigor of the program"
6. "Too few teachers and to not challenge the students"
7. "Personnel, time, and resources to focus on the gifted population"
8. "Trained staff"
9. "Too many groups in one room with one teacher"
10. "I wish we had the funding to provide an after-school enrichment program. We're required to use extended contracts for remediation. We need more time!"
11. "Funding"
12. "Trained staff funding adequate time"

13. "We need a full-time teacher (could cover more than one school) that would work with these students."
14. "More funds and another teacher"
15. "Scheduling time and funding would be necessary"
16. "Personnel and funding filtering directly to the school level"
17. "More gifted teachers, a better schedule, a place for them to meet"
18. "Money and qualified teachers"
19. "More gifted teachers"
20. "Full time teacher available"

Based on the open-ended responses, lack of funding was problematic. According to the respondents, funding is needed for classroom space, professional development, gifted teachers, and materials. The participants related that scheduling a time for instructional practice has been limited because of a deficiency in staff.

Research Question #4

What are the practices of professional development for teachers and administrators in Northeast Tennessee school systems regarding gifted education programs?

In survey statement 13, "In my school system, the personnel organization of the gifted program consists of a group of responsible persons who exercise informal leadership," 51.2% of the respondents agreed with the statement, 16.3% disagreed with the statement, and 32.6% had no opinion. The highest frequency response was 18 in the agree category and the lowest frequency response was 3 in the strongly disagree category. See Table 19 for frequency data.

Table 19

Frequency Data for Survey Statement #13

	Frequency	Valid %
Strongly Agree	4	9.3
Agree	18	41.9
No Opinion	14	32.6
Disagree	4	9.3
Strongly Disagree	<u>3</u>	<u>7.0</u>
Total	43	100.0
No Response	0	

In survey statement 14, “In my school system, additional administrative services are needed with respect to responsibility to the program,” 34.9% of the respondents agreed with the statement, 34.9% disagreed with the statement, and 30.2% had no opinion. The highest frequency response was 14 in the agree category and the lowest frequency response was 1 in the strongly agree category. See Table 20 for frequency data.

Table 20

Frequency Data for Survey Statement #14

	Frequency	Valid %
Strongly Agree	1	2.3
Agree	14	32.6
No Opinion	13	30.2
Disagree	10	23.3
Strongly Disagree	<u>5</u>	<u>11.6</u>
Total	43	100.0
No Response	0	

In survey statement 18, “In my school system, all general education teachers receive some inservice for gifted education,” 32.6% of the respondents agreed with the statement, 48.8% disagreed with the statement, and 18.6% had no opinion. The highest frequency response was 20 in the disagree category and the lowest frequency response was 1 in both the strongly agree and the strongly disagree categories. See Table 21 for frequency data.

Table 21

Frequency Data for Survey Statement #18

	Frequency	Valid %
Strongly Agree	1	2.3
Agree	13	30.2
No Opinion	8	18.6
Disagree	20	46.5
Strongly Disagree	<u>1</u>	<u>2.3</u>
Total	43	100.0
No Response	0	

The survey responses to the open-ended questions that were associated with research question 4 are listed below:

1. "A coordinator to serve as instructor for gifted only"
2. "School-wide training"
3. "Continued professional development"
4. "Money and qualified teachers"
5. "More instruction on how to work with the gifted children"
6. "Training on differentiated instruction within the classroom. Training of using performance tasks and performance assessments to differentiate instruction"
7. "Additional training"

Based on the open-ended responses, there was an expressed need for professional development in using performance tasks and performance assessments to differentiate instruction. Finding qualified teachers was mentioned as a concern. The participants also expressed the need for a program coordinator whose primary assignment would be to support gifted students.

Analysis of Open-Ended Questions

The respondents were given the opportunity to respond to four open-ended questions. These questions were concerning the most positive aspects of their programs, their biggest challenges, what would most improve their gifted program, and any further comments the respondents would like to convey. Of the 43 respondents, 34 chose to respond to questions one, two, and three. In addition, 12 respondents chose to respond to the open-ended questions with comments.

The first question addressed the positive aspects of the respondents' individual schools. Six respondents discussed the use of differentiated instruction to meet the needs of their gifted students. One respondent wrote, "Differentiated instruction and interventions [are] available for all students." Another respondent stated:

We do not have a gifted program in our school system. Classroom teachers meet all [the] students' needs through differentiated instruction and flexible grouping. All third grade students are screened and those meeting school system criteria are tested and identified according to the state standards.

Another respondent shared, "Our district's gifted coordinator provides materials and advice to resource and regular education teachers to help them address the needs of gifted children." One respondent reported that his or her school offered algebra for gifted students as well as regular education students. Other respondents stated that they were effective in identifying gifted students. In contrast, some negative comments were submitted. One respondent posed the question, "We have a program?"

The second open-ended question addressed the biggest challenges concerning the respondents' gifted program. One common thread in the responses revealed a lack of personnel

and the insufficient allocation of staff members' time. One respondent reported, "Too many groups in one room with one teacher." Another comment was simply, "trained staff." One respondent grouped issues together such as, "Personnel, time, and resources to focus on the "gifted" population." Another common thread was the lack of a program or a very sparse program. Respondents replied that there was a challenge in "providing programs for students who are gifted." and "Giving these students a relevant educational experience." Sparse programs also seem to be a concern, "The students are only served an hour per week." Differentiated instruction was also cited as a challenge for one school:

Adequately differentiating instruction is the biggest challenge. We are doing flexible grouping in grades 3-6 (at my school) but it is still difficult to provide truly enriching activities and projects for our gifted students for fear that they'll miss out on essential skills they'll need to do well on TCAPs.

The third open-ended question asked the respondents what would most improve their gifted program. Of the respondents, 65% cited funding or additional resources as a need to make improvements. One expressed, "I wish we had the funding to provide an after-school enrichment program. We're required to use extended contracts for remediation. We need more time!" Another respondent stated the need for, "personnel and funding filtering directly to the school level." The need for trained staff was cited by 59% of the respondents. "A gifted teacher in our building could pull out gifted students to meet their individual needs." Scheduling and materials were also reported as needs. A respondent noted that "pull-out classes for individual interest studies" was needed. The common thread was again noted in question three identifying the fact that some schools do not have structured gifted programs. "At this point, we do not have a well-defined gifted program (in my school) my resource teacher is not gifted-certified."

The fourth open-ended question asked the respondents for any further comments concerning their gifted programs. On a positive note, indicating a potential direct impact from this study, one respondent said he or she saw a gifted program as a need and was intending to make a commitment in the school's current school improvement plan, explaining, "The gifted program is a need in our school. It will be a component of our school improvement plan as we

continue to strive for excellence.” In a similar statement recognizing a need for change from the status quo, another respondent commented very negatively:

It is a meaningless program because the students are only served an hour a week. When they are served, the curriculum has absolutely nothing to do with enriching the state standards; the assignments are not aligned to broadening or enriching standards the students are already accountable for. They do mostly crafts and art -instead of mind broadening or activities correlated to the curriculum to extend or challenge them.

Another respondent stated, “Our program only looks good on paper,” indicating that this person also recognized deficiencies in the existing gifted program.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes and explains the results of the research project. The purpose of this study was to examine public schools' gifted programs throughout Northeast Tennessee. The study focused on the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training.

Much national research has been directed towards the identification of gifted students and the types of programs that might be optimal for students with high intellectual abilities. This study was a descriptive analysis of the identification process of gifted children and the programs and policies in place in a purposeful sample of the school systems of Northeast Tennessee. The researcher also identified the programs that are offered for these gifted students.

Summary of Findings

This study revealed that some school systems in Northeast Tennessee did not have established gifted programs. The school systems that do have established gifted programs exhibit a variety of practices in their programming. Some of the schools provide a modified gifted program. These modified programs included two types of pullout programs. In the first type, students leave the regular classroom or are pulled out to go to a separate classroom to receive gifted instruction once a week. In the second type of pullout program, students are pulled out once every other week. According to a survey respondent, the type of pullout program is determined by the schedule of the gifted teacher.

Of the participants, 26 reported that they provide differentiated instruction for all students. One respondent stated, "We do not have a gifted program in our school system. Classroom teachers meet all students' needs through differentiated instruction and flexible

grouping.” Among the school systems that have established programs, more than 50% of the respondents reported that their schools have written objectives or philosophies for their gifted programs.

The reported need for financial support was great. According to 79% of the respondents, more funds and or resources were needed. These funds were needed to support teacher training (8 responses), to hire more personnel, teachers. and administrators (21 responses), to purchase materials (3 responses), and to extend programs (16 responses).

Professional development was also shown as a need. Of the respondents, 48.8% disagreed that general education teachers receive inservice for gifted education. This indicates a need for additional teacher training. Only 32.6% or one third of the respondents reported that their teachers were being trained to accommodate gifted students.

Research Question #1

To what extent are the gifted programs consistent within the districts of Northeast Tennessee in the identification and assessment regarding gifted education programs?

The survey statement, “My school system has a written program statement that distinguishes between objectives of general mainstream education and objectives of programs for the gifted” was agreed upon by a majority of the respondents. Only three respondents strongly disagreed with the statement.

For the survey statement, “In my school system, the program statement is consistently and pervasively utilized in program development,” a majority of the respondents agreed with the statement. Only three respondents strongly disagreed with the statement.

Based on responses to the survey statement “My school system’s students are tested according to the state mandated testing procedure and requirements,” a high majority or 40 of the respondents agreed with the statement. None of the respondents disagreed with the statement. Two respondents chose the no opinion response.

Based on responses to the survey statement “My school system has an identified gifted program,” 35 of the respondents agreed with the statement providing the highest frequency response. A small percentage of the respondents answered no opinion.

For the survey statement “In my school system, class placement of the gifted student corresponds to general abilities rather than to specific aptitudes and interests,” a majority of the respondents agreed with the statement. Only one response was in the strongly disagree category.

For the survey statement “In my school system, the depth and focus of the activities in the program meet the special needs of identified gifted students,” a majority of the respondents agreed with the statement. Three of the respondents strongly disagreed.

Responding to the survey statement “In my school system, curriculum provides a balanced program of learning experiences that aid gifted students in the development of their social skills,” a majority of the respondents agreed with the statement. Only one person strongly disagreed with the statement.

For the survey statement “In my school system, a differentiated curriculum is provided for the gifted students,” a majority of the respondents agreed with the statement.

The survey statement “In my school system, relevant curricular experiences are available for the gifted in academic subjects, visual and performing arts, and other areas relevant to high potential,” showed that a majority of the respondents agreed with the statement. However, 20.9% disagreed and 27.9% responded with no opinion. The split in responses, near the midpoint, indicated that approximately 50% of the school systems did provide these experiences and the other 50% did not.

Regarding the survey statement, “My school system provides additional instructional facilities and materials based on student and program needs,” based on the responses, a majority of the respondents agreed with the statement. However, 23.3% responded no opinion and 18.6% disagreed; 58.1% of the respondents said they felt they did receive additional instructional facilities and materials demonstrating support for a gifted program.

For the survey statement, "In my school system, curricular experiences for the gifted students are provided to all grade levels and to all schools," the options were yes or no. The responses to this statement were close to being even. A majority responded yes at 53.7% whereas the no responses were 46.3%.

The response to this question was also based on a yes or no response: "In my school system, curricular offerings for our gifted program are adequate." The responses to this statement were close to being even. A majority responded yes at 51.2% whereas the no responses were 48.8%. Again, the percentages are nearly split at the 50% mark that is the same level as reported for those systems that do or do not offer gifted programs.

The response to this question was based on a yes or no response: "My school system provides high school students a dual enrollment option with a neighboring college or university for college credit." A large majority of the respondents reported that they do have dual enrollment. A mere 7.5% responded that they did not have a dual enrollment program.

For the survey statement "My school system has a program coordinator that is responsible for the effectiveness of the program," the options were yes or no. A rather large majority of the respondents answered yes to this question. Only 25% responded that they did not have a program coordinator.

The response to this question was also based on a yes or no response: "Are teachers serving the gifted within the regular instructional program?" A majority of the respondents reported that regular classroom teachers were serving the gifted students. Only 10% responded no, that classroom teachers were not serving the gifted students.

The response to this question was based on yes or no: "My school system will be searching for certified gifted teachers based on the state of Tennessee's new gifted education endorsement." A majority of the responses for this statement was no; however, 45% of the respondents answered yes to seeking teachers with a gifted endorsement. This answer is to be expected since school systems that do not have gifted programs would not be seeking teachers certified in gifted education.

The findings indicate that not all school systems have a gifted program in Northeast Tennessee. The programs are managed differently in those school systems that do have programs. The programs included a once a week pullout program or once every other week pullout program as well as differentiated instruction.

Research Question #2

What are the program philosophies and instructional practices in Northeast Tennessee school systems regarding gifted education programs?

For the survey statement, “In my school system, the program statement is consistently and pervasively utilized in program development,” a majority of the respondents agreed with this statement, 18.6% disagreed and, 27.9% had no opinion concerning a program statement being used in program development.

Based on responses to the survey statement “My school system has an identified gifted program,” a majority of the respondents agreed with the statement; however, 16.3% disagreed with the statement and 2.3% responded no opinion. A majority, 81.4%, responded that they did have a gifted program; this answer contradicted the previous responses. One possible explanation for this discrepancy is that the detailed questions of the survey were answered truthfully, however, this particular question’s response might have been skewed towards the positive.

The data reflect instructional practices as differentiated instruction, a once a week pullout program, or once every other week pullout program. The regular classroom teachers use differentiated instruction with gifted students. In the pullout programs, gifted teachers conduct the instruction. Some of the respondents reported that they have a coordinator that oversees the program to ensure that they adhere to the program’s philosophies and instructional practices.

Research Question #3

How is the education of gifted students in Northeast Tennessee funded?

Based on the responses to the survey statement “In my school system, financial support for the gifted program exists in a sufficient amount beyond average per-pupil costs,” 41.9% of the respondents disagreed with this statement, 37.2% agreed, and 20.9% responded no opinion.

For the survey statement “In my school system it is generally difficult to provide program teachers with appropriate materials and services necessary to implement the program,” a majority of the respondents agreed with the statement. However, the responses for disagree and no opinion were in close proximity as 32.6% disagreed with the statement and 25.6% responded no opinion. The responses to this question indicated that those systems with gifted programs are split with slightly more than half of respondents indicating needs for appropriate materials and services.

Based on the responses to the survey statement “My school system has been awarded grants to supplement gifted instruction,” a very small percentage (9.3%) agreed with this statement, 37.2% disagreed with the statement, and 53.5% responded no opinion. Few grants have been sought.

The response to this question was based on a yes or no response. For the survey statement “My school system has a coordinator,” 75% of the respondents responded yes and 25% responded that they did not have a coordinator.

The reported need for financial support is great. A majority of those surveyed indicated that more funds were needed. These funds were needed to support teacher training, more personnel (teachers and administrators), materials, and extended after school programs. One respondent suggested a summer program as well. As stated in Chapter 2, school systems are provided with operational funds through the Basic Education Program (BEP) from the state of Tennessee and it is a local option whether it is used for gifted programs. Only 9.3% of the respondents said they have received grants for their gifted education program. Funding is minimal.

Research Question #4

What are the practices of professional development for teachers and administrators in Northeast Tennessee school systems regarding gifted education programs?

Based on the responses to the survey statement "In my school system, the personnel organization of the gifted program consists of a group of responsible persons who exercise informal leadership," a majority of the respondents agreed with this statement. However, 16.3% disagreed with the statement and 32.6% responded with no opinion about having a group of responsible persons who exercise informal leadership.

For the survey statement "In my school system, additional administrative services are needed with respect to responsibility to the program," it was close to an even spread in the responses with 34.9% of the respondents agreeing with the statement, 34.9% disagreeing, and 30.2% responding with no opinion in respect to needing additional administrative services. In reflection, the respondents could have been confused as to how to answer the question; this would account for the closely even spread in responses. Interpretation of this question might have differed among the respondents.

In response to the survey statement "In my school system, all general education teachers receive some inservice for gifted education," based on the data, 48.8% disagreed with the statement, 32.6% agreed with the statement, and 18.6% responded with no opinion that all general education teachers receive some inservice for gifted education. A large number of respondents disagreed that regular education teachers are receiving training in gifted education. This finding indicates an area of need.

Professional development was shown as a need. Many of the respondents disagreed that general education teachers receive inservice training for gifted education. This indicates a need for additional teacher training. A few of the respondents reported that their teachers were being trained to accommodate gifted students.

Conclusions

The results of the study indicate that programs do vary in the northeastern portion of Tennessee school systems. It was indicated through the responses that some of these programs were designed as pull-out programs. As stated in Chapter 2, Shaunessy (2003) listed the pull-out program as one optional placement to meet the unique learning needs of gifted children. This technique seemed to be the one most used. A few of the school systems used cluster grouping at an elementary level. Cluster grouping was mainly used in the middle schools; however, the class sizes were larger. Winebrenner and Devlin (1998) defined cluster grouping as:

. . . a group of five to eight gifted students who were in the top 5% of the grade level population. These students were clustered or grouped into one classroom with a qualified teacher who had received specialized training to instruct exceptionally bright students.
(p. 62)

Differentiated instruction was frequently mentioned as being an option for gifted students as well as regular education students. In some cases, differentiated instruction took the place of gifted classes. Renzulli et al. (2003) observed, “Differentiation of curriculum and instruction as a response to student interest is linked to motivation, short- and long-term impacts on learning, productivity, achievement, creativity, student autonomy, acceptance of challenge, and persistence with tasks” (p. 111).

Gifted students and other special education students can tax a teacher greatly. Gifted students absorb information quickly and constantly; whereas, on the opposite end of the spectrum, other special education students have difficulty understanding and can take a long time to grasp a concept. Both can be equally taxing. These vastly different levels of learning require a great deal of planning for lessons and coordination of students. Regular education teachers have been expected to teach all the children based on individual needs. This is a monumental task.

Because gifted students in the state of Tennessee are categorized under the umbrella of children with disabilities in special education, few funds are allocated to gifted education. It is a local decision as to how these funds will be allocated. According to Mike Copas, Tennessee is

one of nine states that places gifted education under the division of special education (M. Copas, personal communication, March 26, 2008). Zirkel (2005) stated that according to the IDEA, "...Tennessee treats gifted students as a subgroup of students with disabilities, but the majority [Alabama, Florida, Kansas, Louisiana, New Mexico, Pennsylvania, West Virginia] provides only limited separation and customization" (p. 231). Tennessee also has placed the responsibility for programming at the local level; thus, Tennessee's local programming has provided the option of early entrance for gifted students as a provision (Zirkel).

In contrast, three school systems in Tennessee, as reviewed in Chapter 2, had very successful and meaningful programs. Those school systems were Memphis City Schools (CLUE), Metro Nashville (Encore), and Franklin Special School District. Each of these programs had a written philosophy and mission statement to guide and maintain the program design.

The *No Child Left Behind* mandate and the *Individuals with Disabilities Act* also has affected gifted education. It has placed a frustrating burden on the shoulders of educators. Educators and administrators have spent a great deal of time balancing these two mandates. According to Johns (2003):

It is most difficult over the long term to be both "equal" and "unequal" at the same time. IDEA allowed (even demanded) unequal treatment. It demanded individualization—not one size fits all. NCLB demands equal treatment with once-a-year tests in reading and math as the measuring instrument. IDEA focuses entirely on the individual. NCLB focuses entirely on the group (on all those with disabilities). (p. 89)

In an effort to balance these *Acts* and to reach the mandated standardized testing gains, gifted students have been often overlooked and put on the "back burner." Many educators have stated that the gifted student will learn in spite of the "system."

A respondent of the survey stated, "Often when educators think about NCLB [*No Child Left Behind*], they do not think about the gifted being left behind. We do our brightest students an injustice by not providing individualized instruction that allows them to continue to grow intellectually."

Recommendations for Further Research

This study describes a small geographic area of Northeast Tennessee. Further quantitative studies should be replicated in all of the Tennessee Field Service Office regions. By conducting statewide research, data might reveal a complete picture of the state's gifted programs. As stated in Chapter 2, the Tennessee Department of Education makes provision for gifted students under the special education umbrella. However, gifted programs are left to the local school systems to build their own gifted programs if they so choose. It was reported in this research that Northeast Tennessee school systems have handled their programs differently. Some of the school systems had pullout programs of varying types, differentiated instruction, or no identified program at all. Looking at the data for the state as a whole would reveal the most prevalent method of serving the gifted in Tennessee. Identifying the most prevalent service methods and program designs would be useful in guiding state and local decisions regarding the needs and opportunities for gifted students.

Answering the question as to why some school boards opt to not allocate funds to support gifted programs would be beneficial. Further questions would be: What are the funds used for other than gifted education? Why do some school systems fail to place importance on providing a gifted program? Why isn't more teacher training provided for general education teachers to instruct gifted children? The regular classroom teacher is responsible for the student(s) a majority of the time or 100% of the instructional time. State-wide research concerning these questions would provide a clear depiction of the state's practices in gifted education.

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APPENDICES

APPENDIX A

Survey Instrument

Gifted Education in Northeast Tennessee Public Schools: A Descriptive Study

Please answer the following questions about your experience, your school system, and gifted programs and its impact on your school system.

Your participation is voluntary. You can refuse to answer any question.

Please circle the one best response to each of the following statements regarding the gifted in your school system. SA: strongly agree A: agree N: no opinion D: disagree SD: strongly disagree

My school system:

1. has a written program statement that distinguishes between objectives of general mainstream education and objectives of programs for the gifted.

SA A N D SD

2. the program statement is consistently and pervasively utilized in program development.

SA A N D SD

3. students are tested according to the state mandated testing procedure and requirements.

SA A N D SD

4. has a written philosophy for the gifted program.

SA A N D SD

5. has an identified gifted program.

SA A N D SD

6. has written objectives for the gifted program.

SA A N D SD

7. class placement of the gifted student corresponds to general abilities rather than to specific aptitudes and interests.

SA A N D SD

8. the depth and focus of the activities in the program meet the special needs of identified gifted students.

SA A N D SD

My school system: continued

9. curriculum provides a balanced program of learning experiences that aid gifted students in the development of their social skills.

SA A N D SD

10. a differentiated curriculum is provided for the gifted students.

SA A N D SD

11. relevant curricular experiences are available for the gifted in academic subjects, visual and performing arts, and other areas relevant to high potential.

SA A N D SD

12. provides additional instructional facilities and materials based on student and program needs.

SA A N D SD

13. the personal organization of the gifted program consists of a group of responsible persons who exercise informal leadership.

SA A N D SD

14. additional administrative services are needed with respect to responsibility to the program.

SA A N D SD

15. financial support for the gifted program exists in a sufficient amount beyond average per pupil costs.

SA A N D SD

16. it is generally difficult to provide program teachers with appropriate materials and services necessary to implement the program.

SA A N D SD

17. has been awarded grants to supplement gifted instruction.

SA A N D S

18. all general education teachers receive some in-service for gifted education.

SA A N D SD

For each of the following statements, please circle a yes or no response:

19. In my school system curricular experiences for the gifted students are provided at all grade levels and at all schools.

YES

No

20. In my school system curricular offerings for our gifted program are adequate.
YES NO
21. My school system provides high school students a dual enrollment option with a neighboring college or university for college credit.
YES NO
22. My school system has a program coordinator that is responsible for the effectiveness of the program.
YES NO
23. My school system has a coordinator?
YES NO
24. Are teachers serving the gifted within the regular instructional program?
YES NO
25. My school system will be searching for certified gifted teachers based on the State of Tennessee's new gifted education endorsement.
YES NO
26. What are the most positive aspects of your program?
27. What are your biggest challenges concerning your gifted program?
28. What do you feel would most improve your gifted program?
29. Comments:

Questions or comments contact
Kathryn Sisco, ETSU doctoral student
Kathryn_sisco@hcboe.net
Thank you for your participation in this survey!

APPENDIX B
IRB APPROVAL



East Tennessee State University
Office for the Protection of Human Research Subjects • Box 70565 • Johnson City, Tennessee 37614-1707 • (423) 439-6053
Fax: (423) 439-6060

APPROVAL
Initial Exempt Review

February 1, 2008

Kathryn Ross-Sisco
1402 Rich Circle
Morristown, TN 37814

Re: Gifted Education in Northeast TN Public Schools: A Descriptive Study
IRB#: c07-120e
ORSPA #: None

The following items were reviewed:

- Form 103 with Assurance Statement
- Narrative (2/15/2008)
- Resume
- Conflict of Interest Form (no potential conflict of interest identified)
- Survey
- Letters to Participants- Directors and Principals (approved 2/18/08)
- Permission Letters from outside institutions

On February 18, 2008, a final approval was granted in accordance with 45 CFR 46. 101(b)(2). It is understood this project will be conducted in full accordance with all applicable sections of the IRB Policies. No continuing review is required. The exempt approval will be reported to the convened board on March 6, 2008.

Make sure you provide the Graduate Office with a copy of this letter for their records.

Unanticipated Problems Involving Risks to Subjects or Others must be reported to the IRB (and VA R&D if applicable) within 10 working days.

Proposed changes in approved research can not be initiated without IRB review and approval. The only exception to this rule is that a change can be made prior to IRB approval when necessary to eliminate apparent immediate hazards to the research subjects [21 CFR 56.108 (a)(4)]. In such a case, the IRB must be promptly informed of the change following its implementation (within 10 working days) on Form 109 (www.etsu.edu/irb). The IRB will review the change to determine that it is consistent with ensuring the subject's continued welfare.



Accredited Since December 2005

Sincerely,

A handwritten signature in black ink that reads "Gail A. Gerding". The signature is written in a cursive style with a large initial "G" and a long, sweeping underline.

Gail Gerding, Ph.D., Chairperson
ETSU Campus Institutional Review Board

APPENDIX C

Letter to Directors of Schools

[Date]

Dear Directors:

My name is Kathryn Ross-Sisco, and I am a graduate student at East Tennessee State University. I am working on my dissertation and focusing on Gifted Education in Northeast Tennessee Public Schools. In order to finish my studies, I need to complete a research project. The name of my research study is entitled, *Gifted Education in Northeast Tennessee Public Schools: A Descriptive Study*.

The purpose of my study is to focus on the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training. I would like to give a brief survey questionnaire to the principals of your school system. It should only take about 10 minutes to complete. They will be asked questions about the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training.

This method is completely anonymous and confidential. In other words, there will be no way to connect your name with your responses. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the ETSU IRB and Dr. Louise MacKay have access to the study records.

If they do not want to fill out the survey, it will not affect them in any way. There are no alternative procedures except to choose not to participate in the study.

Participation in this research experiment is voluntary. They may refuse to participate. They can quit at any time. If they quit or refuse to participate, the benefits or treatment to which they are otherwise entitled will not be affected.

If you have any research-related questions or problems, you may contact me or Dr. Louise MacKay. I am working on this project together under the supervision of Dr. Louise MacKay. You may reach her at (XXX) XXX-xxxx. Also, the chairperson of the Institutional Review Board at East Tennessee State University is available at (XXX) XXX-xxxx if you have questions about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you can't reach the study staff, you may call an IRB Coordinator at XXX-XXX-xxxx or XXX-XXX-xxxx.

Sincerely,

Kathryn A. Ross-Sisco

APPENDIX D

Letter to Principals

[Date]

Dear Principal:

My name is Kathryn Ross-Sisco, and I am a graduate student at East Tennessee State University. I am working on my dissertation and focusing on Gifted Education in Northeast Tennessee Public Schools. In order to finish my studies, I need to complete a research project. The name of my research study is entitled, *Gifted Education in Northeast Tennessee Public Schools: A Descriptive Study*.

The purpose of my study is to focus on the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training. It should only take about 10 minutes to complete. You will be asked questions about the process of gifted student identification, individual program requirements, and funding of gifted programs as well as professional development and advanced teacher training.

This method is completely anonymous and confidential. In other words, there will be no way to connect your name with your responses. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the ETSU IRB and Dr. Louise MacKay have access to the study records.

If you do not want to fill out the survey, it will not affect you in any way. There are no alternative procedures except to choose not to participate in the study.

Participation in this research experiment is voluntary. You may refuse to participate. You can quit at any time. If you quit or refuse to participate, the benefits or treatment to which you are otherwise entitled will not be affected.

If you have any research-related questions or problems, you may contact me or Dr. Louise MacKay. I am working on this project together under the supervision of Dr. Louise MacKay. You may reach her at (XXX) XXX-xxxx. Also, the chairperson of the Institutional Review Board at East Tennessee State University is available at (XXX) XXX-xxxx if you have questions about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you can't reach the study staff, you may call an IRB Coordinator at XXX-XXX-xxxx or XXX-XXX-xxxx.

Sincerely,

Kathryn A. Ross-Sisco

APPENDIX E

Permission to Duplicate Figure 1

Printed by: **Kathryn Sisco** March 26, 2008 12:07:03 PM
Title: **Re: Request for permission to duplicate Three ring conception of Giftedness Model : do it** Page 1 of 3
Mar 26, 2008 8:34:45 AM

Re: Request for permission to duplicate Three ring conception of Giftedness Model
From: joseph.renzulli@uconn.edu
Joseph Renzulli <joseph.renzulli@uconn.edu>
Subject:

To:

Attachments: Attach0.html 5K

Kathryn Sisco

Dear Kathryn,

Permission is granted to include the three ring conception of giftedness graphic in your study.

Good luck with your work,

Joe Renzulli

On 3/26/08 12:14 AM, "Kathryn Sisco" <KSisco@hcboe.net> wrote:

Dr. Renzulli,

I am a doctoral candidate completing my dissertation at East Tennessee State University. I

am requesting permission to duplicate your model of the three ring conception of

giftedness for inclusion in my study. My study is entitled **Gifted Education in Northeast**

Tennessee Public Schools: A Descriptive Study.

The image that I am requesting permission to duplicate is from the book:

Renzulli, J. (1986). The three ring conception of giftedness: A developmental model for

creative productivity. In R. J. Sternberg & J. E. Davidson (Eds.),

Conceptions of

giftedness (pp. 53-92). New York: Cambridge University Press.

and I have attached it to this message for your information and review.

If I need to contact to seek this permission please respond accordingly.

Printed by: **Kathryn Sisco** March 26, 2008 12:07:04 PM

Title: **Re: Request for permission to duplicate Three ring conception of Giftedness Model : doit** Page 2 of 3

Thank you for your assistance in this matter.

Kathryn A. Sisco, Ed.S

Hamblen County Schools

kathryn_sisco@hcboe.net

Cell: (423) 748-2131

Work: (423) 586-1080

*

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**

Printed by: **Kathryn Sisco** March 26, 2008 12:07:04 PM

Title: **Re: Request for permission to duplicate Three ring conception of Giftedness Model : doit** Page 3 of 3

--

Joseph S. Renzulli, Director
The National Research Center on the Gifted and Talented
University of Connecticut Board of Trustees Distinguished Professor
Raymond and Lynn Neag Professor of Gifted Education and Talent Development
[Visit our award winning website www.gifted.uconn.edu/](http://www.gifted.uconn.edu/) for information about our summer and academic year programs including Confratute, Three Summers Master's Degree Program, On-Line Courses, UConn Mentor Connection, Parenting Specialist Help, and the latest research from The National Research Center on the Gifted and Talented.

APPENDIX F

Permission to Duplicate Figure 2

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1 of 1 3/26/08 6:53 PM

Title: Transforming gifts into talents:
the DMGT as a developmental
theory

Author: François Gagné

Publication: High Ability Studies

Publisher: Taylor & Francis

Date: Jan 12, 2004

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VITA

KATHRYN ANN ROSS-SISCO

Personal Data: Date of Birth: May 31, 1967
 Place of Birth: Steubenville, OH
 Marital Status: Married

Education: Public Schools, East Liverpool, OH
 Kent State University, Kent, OH;
 Elementary Education, B. S.,
 1990

 Tusculum College, Greenville, TN;
 Educational Sciences, M. S.,
 1994

 Lincoln Memorial University, Harrogate, TN;
 Educational Administration and Supervision, Ed. S.,
 1997

 East Tennessee State University, Johnson City, Tennessee;
 Educational Leadership and Policy Analysis, Ed.D.;
 2008

Professional
Experience: Teacher, Manley Elementary and Hillcrest Elementary;
 Morristown, TN,
 1992-1993

 Teacher, Lincoln Elementary;
 Morristown, TN;
 1994-1995

 Teacher, John Hay Elementary School;
 Morristown, TN;
 1994-Present