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A study of gifted and talented educational programs in Nevada public school districts

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A STUDY OF GIFTED AND TALENTED EDUCATIONAL PROGRAMS IN NEVADA PUBLIC SCHOOL DISTRICTS

by

Thursenia DeHart-Porter

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

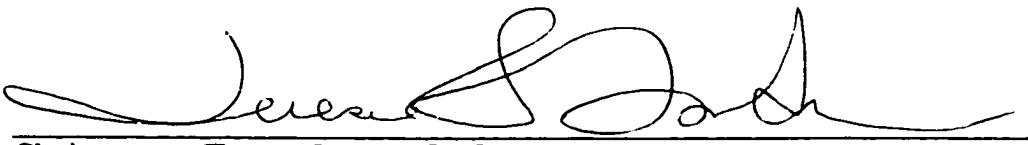
Doctor of Education

in

Educational Leadership

Department of Educational Leadership
University of Nevada, Las Vegas
December 1997

The Dissertation of Thursenia DeHart-Porter for the degree of Doctor of Education in Educational Leadership is approved.



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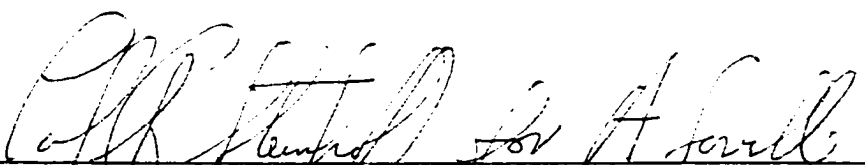

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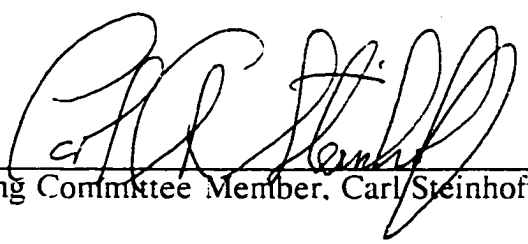

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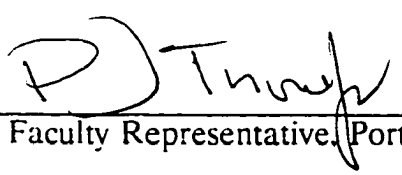

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ABSTRACT

The purpose of this study was to investigate gifted and talented education programs in the 17 public school districts in the state of Nevada. A survey was conducted in two parts. The first section described the participants, delivery models, and staffing of programs for gifted and talented students. The second part, based on resource input methodology (RIM), gathered information on personnel and supply costs.

All 17 districts responded. Eleven districts have programs for gifted and talented students; six do not. Only one district, Pershing County, reported no program, but it identified three students as gifted and talented and served them in an inclusion program in the regular classroom. Data from the districts were tabulated and analyzed in the order of the research questions and in relation to the literature review. Program expenditures were calculated. Conclusions were formed and the recommendation for a mandated program for gifted and talented students in Nevada was made. A directory of contact persons for Nevada gifted and talented education programs was compiled.

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ACKNOWLEDGEMENTS

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This Doctor of Education degree stands as a testimony to the greatness of God's love and the blessings He has bestowed upon me. To God, I give all glory and praise.

CHAPTER 1

INTRODUCTION

When Thomas Jefferson wrote in the *Declaration of Independence* that ". . . all men are created equal; that they are endowed by the creator with certain inalienable rights . . . life, liberty, and the pursuit of happiness," he did not suggest that these rights must be customized to the individual. When Abraham Lincoln reiterated publicly that ". . . all men are created equal," the Union audience concurred. When the United States initiated locally controlled, free, public education for, at least in theory, all children, no one thought clearly about the notion of individual learning styles or abilities. Mass education was developed to teach skills for democracy to the central 80% of the normal curve.

Introduction

Controversy surrounds gifted and talented education. Definition, identification, and assessment are core issues. Questions abound:

* What does it mean to be gifted or talented?
* How are children identified as gifted or talented?
* What measurements are available and accurate?

* Are assessments discriminatory on the basis of gender or ethnicity?

The ultimate question with regard to gifted and talented education is "Who benefits and who pays?"

In the early 1970s, Congress requested a study of gifted and talented education. S. P. Marland, United States Commissioner of Education, reported that policies and programs for educating the gifted and talented children were ". . .all but non-existent" (Fehrle, Duffy, & Schultz, 1985, p. 2). The state of Nevada similarly has an administrative code, but no policies related to gifted and talented education. Typically in public education, when a program is not mandated, it does not occur.

Philosophically, however, many educators believe that educating gifted and talented students is essential in order to increase their academic achievement, self-concept, and self-reliance. Because gifted and talented students have the potential to become the nation's leaders, inventors, and entrepreneurs, they are an untapped resource which could benefit society in the long run. Key factors in educating these students ". . .include teacher preparation, screening criteria, placement procedures, and delivery systems employed in the tailored educational system" (Alexander, 1991, p. 80).

Historically, efforts were made to educate gifted and talented students without special attention based on the premise that they did not require extra help or support in order to excel. In Nevada and throughout the nation,

formal gifted and talented programs have only recently been established. Procedures for establishing these programs include establishing criteria for the identification of students for programs in gifted and talented education (GATE), identifying the eligible students, determining their programmatic needs, configuring programs to serve these students, securing qualified teachers, and securing adequate funds to operate the program. Since Nevada is one of the states that does not mandate gifted and talented education, all of the state's school districts do not provide GATE programs. Proponents of gifted and talented education, however, purport, "We have started down a promising path. . . . We have entered into a Jeffersonian compact to enlighten our children and the children of generations to come. . . . The time for rhetoric is past; the time for performance is now" (Gifted Association of Maryland, 1991, p. 2). The current context of GATE in Nevada is that some have started down the path, but others have not taken the first step. For the advocates of GATE, their frustration is that there is no database that will provide comprehensive information about the status of GATE in Nevada.

Purpose of the Study

Gifted and talented education is frequently overlooked in the grand design of mass education in the United States. In the state of Nevada, specific programs for these youth are not mandated. The purpose of this study was to investigate the status of gifted and talented education programs in the public

schools in the state of Nevada. The goals were to determine the extent of programs for gifted and talented students, to determine how many counties had GATE programs, to analyze the consistencies in the criteria utilized in the identification of gifted and talented students, to determine the number of identified students and their ethnicity and gender, to secure information concerning the selection and qualifications of teachers, to identify the structure used to administer these programs, to ascertain the rationale for tailoring subsequent types of educational programs for those children, and to determine the cost/expenditures for existing programs.

Research Questions

Consistent with the purpose of the study, the research questions used in this study were designed to obtain a comprehensive view of gifted and talented educational programs in the public school districts of Nevada. The following questions were answered as a result of this research.

1. Who is served in the gifted and talented education programs in public school districts in the state of Nevada?
2. Are the demographic characteristics of gifted and talented students similar to the students in the districts as a whole?
3. How are students served in gifted and talented education programs in terms of models of delivery?
4. Who serves the gifted and talented education programs in Nevada?
5. What are the costs of gifted and talented education programs in Nevada?

Context of the Study: The State of Nevada

With 110,540 square miles, Nevada is the seventh largest state in area in the nation. Located in the southwest, Nevada is bordered by California on the south and west, Oregon and Idaho to the north, and Utah and Arizona to the east. One of the fastest growing states, Nevada's population is about 1.5 million with between 3,000 and 5,000 new residents each month. The state has 17 counties which vary in size and configuration, and except for the Las Vegas metropolitan area in Clark County and Reno in Washoe County, they are essentially rural (see Figure 1). Nevada's capital, Carson City, is located about an hour south of Reno in its own county. The county configuration is significant to the public educational system in Nevada since school district boundaries are coterminous with county boundaries. Districts are funded through the Nevada Plan which is a minimum foundation program. The Nevada Revised Statutes (NRS 387.121) state:

> . . . the quintessence of the state's financial obligation for [compulsory and elective] programs can be expressed in a formula partially on a per pupil basis and partially on a per program basis as: State financial aid equals school district basic support guarantee minus local available funds produced by mandatory taxes.

In addition to the basic support guarantee per pupil, the state legislature establishes funding for state-supported special education program units and class size reduction.

Figure 1. The state of Nevada showing its 17 counties.

The Special Education Branch of the Nevada Department of Education is responsible for administration of gifted and talented programs (Nevada Administrative Code (NAC) for Special Education Programs, May 1994). NAC 388.043 defines gifted and talented as a ". . . person who possesses or demonstrates outstanding ability on one or more of the following:

1. General intelligence;
2. Academic;
3. Creative thinking;
4. Productive thinking;
5. Leadership;
6. The visual arts; or
7. The performing arts" (p. 4).

Pupils identified as gifted and talented are specifically excluded from the definition of a "pupil with a disability" (NAC 388.093). NAC also imposes guidelines for maximum class size for gifted and talented programs (388.150), the licensing of teachers of the gifted and talented (388.165), and the amount of time that a pupil who is gifted and talented must participate in "differentiated educational activities" (388.435, p. 39).

Conceptual Rationale

Theoretically, education of the gifted and talented may be viewed as an extension of the doctrine of individual differences. Further, the theme of self-

realization epitomizes education in a democracy because of the value placed on the individual human being. As a result, to the extent that school programs are truly adapted to individual differences, they contribute to the self-realization of each student (Ciner-Armstrong, 1995, p. 418).

To accomplish self-actualization for gifted and talented students, however, school districts must identify the students and provide specific education for them. Similar to any function in education, programs for the gifted and talented cost money. In addition, teachers must be trained to work in those programs. Further, the school board, administration, teachers, staff, parents, community, and sometime even the students themselves must realize and acknowledge that these children are different from their peers in a very positive way that requires recognition and support.

Programs designed specifically for gifted and talented students are essential. Study after study reports the large percentage of high school dropouts who are gifted (Clifford, 1990; Gifted Association of Maryland, 1991; Schmitz & Gailbraith, 1985). At the same time, the value to society of these individuals has been acknowledged as critical to the future success of the nation (Iacocca, 1991; Rogers, 1986). In the early 1990s, President George Bush, Secretary of Education Lamar Alexander, and the governors of the 50 states all stressed the need to push those individuals with the greatest potential to achieve (Alexander, 1991).

The lack of programs for gifted and talented students has been attributed to the belief that these students do not need special guidance, direction, or teaching (WINGS, 1990). This is not the case as indicated by the dropout rates of gifted and talented students, for example. Once educators agree in the necessity of programs for gifted and talented students, the issues become money and means.

Because each student is unique, gifted and talented programs must extend beyond the acquisition of skills and facts to challenge the student's strengths and weaknesses (Baum, 1990). Further, research suggests that once the child is identified as gifted and talented, specialized programming should accompany the student through grade 12 in order to maintain the student's interest in school, learning, and achievement (Smutny & Blocksom, 1990). The method of delivery of gifted and talented programs, however, depends on the needs of their students and the resources of the school and the community (Schmitz & Galbraith, 1985).

Many myths surround gifted and talented students. They range from the belief that these students are easily identifiable as those who excel in school to the conviction that only upper or middle class Caucasian or Asian students are gifted. Other illusions suggest that gifted and talented students do not drop out of school, do not present behavioral problems, do not have learning disabilities, and do not fail in school (Kerber, 1991). Consequently,

educators, parents and community leaders as well as the gifted and talented students themselves require information on the nature of giftedness.

The costs of educating gifted and talented students within the regular classroom or apart from other students need to be determined because research on funding for special populations typically does not include gifted and talented (Lyons & Jordan, 1991). In Nevada, for example, gifted and talented programs are not mandated and, consequently, data and information on such programs are not aggregated at the state level as to the type and the expenditures for gifted and talented programs from district to district. In Clark County, the largest district in the state, for instance, specific gifted and talented programs are available in grades 2 through 6; beyond grade 6, these programs are incorporated into regular programming. As a result, expenditures are hard to identify, and the source of funding appears to be a combination of leftover special education funds and general operating funds (CCSD Business and Finance Services Division, 1996).

Methodology

A program survey and a cost study survey were used to identify those Nevada districts that were providing programs for gifted and talented students. These methods were selected because the survey would permit the systematic collection of data, and the RIM (Resource Input Methodology) was used to determine the resource inputs assigned to the gifted and talented for

programs. Some data were gathered by district, while other information was available at the state level through the Nevada Department of Education.

A survey instrument based on the research questions was developed for acquisition of data. It was mailed with instructions to each district superintendent for forwarding to the person responsible for gifted and talented programs in that district or, if known, directly to the responsible person. Follow-up contacts were conducted until responses had been received from all 17 counties.

Data Analysis

Data were analyzed by tabulating and interpreting the questionnaire responses, and then by examination of the results to identify patterns for each question. As additional information was needed, the appropriate source at either district or state level was contacted.

Expenditure data were analyzed using the resource input methodology (RIM) (Lyons, 1990; Lyons & Jordan, 1991). According to Lyons (1990), this approach requires "(a) the delineation of all human and material resource inputs required for a program's implementation, (b) the determination of the cost of each input, and (c) the summing of all resource input costs to determine the program's expenditures" (p. 48). The program expenditure per pupil (PEP) can then be determined by summing the costs and dividing by the number of students served in the program.

Definition of Terms

In this study, the following definitions of terms are applicable:

Acceleration: Acceleration is the process involving placement of students in advanced classes in order to promote and enhance learning beyond the confines of the regular classroom (Coleman & Gallagher, 1995, p. 32).

Advanced Placement Program: These programs enable high school students to enroll in college level classes. Generally limited to juniors and seniors, this practice is characterized either by conducting advanced classes on the high school campus or by permitting the advanced student to travel to a neighboring campus to take classes (Coleman & Gallagher, 1995, p. 32). In some cases, the student may earn both high school and college credit simultaneously.

Advanced Placement (TM) Testing Program: This program, run by the College Entrance Examination Board (CEEB), enables students who take preparatory AP high school classes to receive credit through testing (Barron's, 1994, p. 9).

Alternative School: Students identified as gifted and talented may attend an alternative school on a full-time basis rather than the school to which they were regularly assigned. Courses correlate with the regular program of instruction, and advanced classes in special areas such as the arts and sciences are also offered (Coleman & Gallagher, 1995, p. 41).

Dual Credit: A student may receive both high school and college credit for a college-level course (CCSD, Credit Options, 1994).

Enrichment: "Enrichment is any experience that replaces, supplements, or extends instruction normally offered by the school" (Correll, 1978, p. 5). Enrichment can be provided through teacher-directed, parent- or family-involvement, or student-initiated activities.

Gifted and Talented Student:

> A person of high intellectual and/or creative potential whose performance consistently excels to reflect his/her abilities. These students exhibit precocious development of mental capacity and learning potential as determined by competent professional evaluation to the extent that continued educational growth and stimulation could best be served by an environment beyond that offered through a standard grade-level education. (Coleman & Gallagher, 1995, p. 87)

Horizontal Acceleration: This type of acceleration is the process of gearing grade-level studies to an in-depth level of examination (Hunsaker, 1995, p. 41).

Individualized Educational Program (IEP): Mandated for special education students, the IEP is a prescribed program of studies, services, and techniques individually assigned for a specific student (CCSD Special Education Manual, 1992).

Individualized Instruction: "Individualized Instruction is a program designed to accommodate the educational needs, interests, and learning styles of each student served" (Bartman, 1990, p. 6).

Learning Style: Learning style is the composite of characteristics that affect psychosocial factors that serve as indicators of how a learner perceives, interacts with, and reacts to his or her learning environment (Hunsaker, 1995, p. 41).

Pull-Out Instruction: This model of instruction systematically releases students with special needs from their regular classes and places them in a special setting for enrichment activities and interaction with intellectual peers (CCSD Special Education Manual, 1992).

Resource Room: A resource room is a learning area apart from the regular classroom where students identified as gifted and talented may receive guidance, enrichment, and interaction with intellectual peers (CCSD Special Education Manual, 1992).

Resource Teacher: A resource teacher is one who has primary responsibility for the educational program of the gifted assigned to the resource room for one or more class periods per week (CCSD Special Education Manual, 1992).

Vertical Acceleration: This process places gifted students in advanced classes. Grade level jumping or early promotion is one example (Hunsaker, 1995, p. 41).

Limitations and Delimitations

This study of programs for gifted and talented students in public school districts was limited to Nevada and is not generalizable to other states or locales. It was assumed that accurate and complete data were provided by the Nevada Department of Education and the individual school districts. No attempt has been made to assess the quality or effectiveness of programs for gifted and talented students in the state of Nevada.

Significance of the Study

The dilemma in Nevada was illustrated in a personal communication from State Superintendent of Instruction Mary Peterson in which she said, "There are no state mandates for gifted education in the state of Nevada; therefore, gifted education programs vary from district to district." In addition, she indicated that the Nevada Department of Education does not have either the human or the financial resources to study gifted and talented education programs because districts are not required to have such programs. Consequently, this research will contribute valuable information at the state level by providing documentation of the status of current programs in Nevada.

Summary

In this first chapter, the concept of gifted and talented education was discussed. The purpose and significance of the study were delineated, and the research questions were listed. Information was provided about the subject

selected for this study, the state of Nevada, and the principal terms used in the study were defined. The conceptual rationale for the study was explained in terms of student and state needs, the doctrine of individual differences, and program expenditures. In addition, the methodology and data analysis were described briefly, and the limitations and delimitations were noted. In the second chapter, related research and literature are summarized. The survey research methodology used in this investigation is discussed in the third chapter. In the fourth chapter, the findings from the program survey and the expenditure survey are reported. Finally, in the fifth chapter, conclusions and recommendations for additional research are presented.

CHAPTER 2

REVIEW OF THE LITERATURE

Definition, identification, and assessment are core issues in the controversy surrounding gifted and talented education. In Nevada, the site of this study, GATE is not mandated. To better understand GATE, this review of the literature is organized by the following topics: (a) the need for programs for gifted and talented students; (b) the characteristics of the gifted and talented learner; (c) the classifications, numbers, and demographics of gifted and talented learners; (d) the characteristics of educational programs for gifted and talented students; (e) the types of programs and delivery systems; (f) the tailoring of programs for gifted and talented students; (g) the professional preparation needed by teachers of gifted and talented students; and (h) the costs of gifted and talented programs.

The Need for Programs for Gifted and Talented Students

Numerous studies on gifted and talented education programs have varied in scope and size; however, they all agreed that such programs are necessary because of the unique needs of gifted and talented children. In

addition, not addressing their educational needs has been depicted as creating a societal void. For example,

> There are many different studies, but reports show that from 15 percent to 35 percent of high school dropouts are gifted students; students turned off and bored by a school curriculum that is just not appropriate for their learning capabilities. (Gifted Association of Maryland, 1991, p. 14)

Another study further found that as many as 30% of high school dropouts are gifted; because of low self-esteem, general lack of self-confidence, no academic challenge, and discomfort in the school setting, however, they leave high school before completion (Belts & Neihart, 1983). Also, dropping out appears to be an avenue of choice for gifted students when positive options are unavailable (Schmitz & Galbraith, 1985).

In an attempt to show a correlation between gifted students of low socio-economic status and the dropout rate, Clifford (1990) found instead that the dropout problem is not constrained by either socio-economic or ethnic descriptors:

> School abandonment is not confined to a small percentage of minority students, or low ability children, or mentally lazy kids. It is systemic failure affecting the most gifted and knowledgeable as well as the disadvantaged and it is threatening the social, economic, intellectual, industrial, cultural, moral and psychological well-being of our country. (p. 22)

Therefore, she concluded that all students must be challenged, and the needs of all students must be met. This would involve reforming educational practice.

Jane Cox, Executive Director of the Gifted Students Institute, conducted a study of the needs of gifted and talented students for the Texas-based Richardson Foundation. She found that it might be possible to maximize a learner's development through a highly stimulating environment (Cox, 1989). In addition, however, the opposite may occur--a student's development may be retarded or stunted in certain settings, resulting in regression of previously demonstrated abilities, aptitudes, and self-concepts. The Martinson Study of 1973 (Rogers, 1986) further corroborated this notion:

> The phenomenon of regression has been established in comparing gifted first grade pupils in special programs with equally gifted first grade pupils in regular classes with no provisions. The gifted in special programs, who were allowed to learn without restriction, gained an average of two academic years during a single year, while the gifted controls gained only the usual one year. (p. 12)

Regression of gifted and talented students has been attributed to boredom (Fehrle et al., 1988):

> Boredom is emptiness. When children are denied the right to be curious and explore, when they must always await the commands of adults before acting, when their judgment is ignored, when they depend on devices other than their own abilities for entertainment, they are likely to feel empty of interesting thoughts and are bored. (p. 17)

Boredom among the gifted and talented may be successfully addressed through programs which enhance their learning experiences.

The business community has generated a growing concern for educational achievement. Business leader Lee Iacocca, for example, addressed the need for reform and for recognizing America's untapped resource of

abilities, "American kids don't have lower IQs than kids across the ocean. We just don't let them develop their skills. They're failing because we're failing them" (Iacocca, 1991, p. 21).

The educational achievement concerns among business leaders were addressed by President George Bush and the 50 governors of the United States in the *National Goals for Education* (Alexander, 1991). Worthy avenues to pursue, these goals caused a flurry of educational activity: "Meeting them [the National Education Goals] will require that the performance of our highest achievers be boosted to levels that equal or exceed the performance of the best students anywhere" (p. 60). Not only are the gifted and talented students expected to achieve, but all others are as well: "What our best students can achieve now, our average students must be able to achieve by the turn of the century" (p. 60). As a result, the cry is also for reform for all students while addressing the needs of the gifted and talented:

> If we are to achieve a richer culture rich in contrasting values we must recognize the whole gamut of human potentialities, and so weave a less arbitrary social fabric; one in which each diverse human gift will find a fitting place. (Maryland Department of Elementary and Secondary Education, p. 2)

Those concerned with gifted and talented education decry the dearth of adequate programs in the United States (Lueker, 1991; WINGS, 1990). Thomas Jefferson wrote, "The greatest inequity is the equal treatment of unequals" (WINGS, 1990, p. 10); therefore, the current cry for equality, equity, and fairness misses the mark for gifted and talented education. For example,

the belief remains that students identified as gifted and talented can learn without special guidance and, consequently, are not at-risk of dropping out of school. This is not the case, but this lack of understanding and/or knowledge about giftedness and talent have hindered establishment, maintenance, and funding of programs. "Special programs for the gifted have been neglected too long in our nation's schools" (Smutny & Blocksom, 1990, p. v); now is the time to address their needs.

Gifted children have been described as follows: "These children are like plants that need stakes to grow against, with gentle ties where necessary to support their natural growth, instead of being rigidly espaliered to a stone wall in artificial designs someone else devised" (Gifted Association of Missouri, 1991, p. 2). Also inferred is a relationship between giftedness and leadership. For example, Abraham Lincoln reportedly taught himself to read because school was unavailable. Thomas Jefferson, a true Renaissance man, was an inventor, farmer, scholar, statesman, and founding father of the University of Virginia and the United States of America. In a different world and at a different time, these occurrences of spontaneous giftedness and talent appear less frequently. Mass education, aimed at the center of the normal curve, must also stretch to the high-achieving end as it has already reached out to the low extreme.

Characteristics of the Gifted and Talented Learner

Children must meet specific criteria in order to be identified as gifted and/or talented. Although similarities exist, generally speaking, criteria vary from school to school, district to district, and state to state. One definition is:

> Gifted and talented children are those identified by professional and 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. (Smutny & Blocksom, 1990, p. 1)

Academic intelligence as measured by the IQ test is only one standard for identifying the gifted and talented. The term "gifted" has also been known to include such categories as highly gifted, socially gifted, and academically gifted. This differentiation is based on the premise that giftedness or talent varies in manifestation from individual to individual. Variations have been attributed, for example, to home environment, type of educational program, and other factors. In summary, abilities differ among gifted students just as they do for any characteristic of any segment of the population.

According to Smutny and Blocksom (1990), gifted individuals constitute about 5% of the general population, based on IQ. Other characteristics of giftedness and talent include the tendency to excel in an area of interest such as science, math, or the arts. Other gifted and talented individuals may exhibit superlative leadership skills. In any case, Smutny and Blocksom stressed the

need for recognizing and cultivating all areas of strength and interest which may often go untapped and undeveloped.

Gifted and talented students are sometimes described as displaying excellent critical thinking skills because they can easily analyze, synthesize, and evaluate abstract concepts and ideas. Another characteristic is quick learning--the ability to retain and use information. Also, possession of an advanced vocabulary or independence in performing activities as well as production of original ideas or concepts has been construed to be giftedness. Independent learning is frequently considered a characteristic of gifted and talented students. For example, the gifted student may display flexibility in thinking and in activities and may express a desire to learn and an enjoyment of challenges (Chuska, 1989). Generally, gifted students are goal-directed and they often develop creative ways to accomplish those goals. Frequently they exhibit a keen sense of humor and display high levels of energy on topics and tasks of special interest to them. Many also have excellent organizational skills.

All these descriptors may apply to the gifted student, or none may. It is not uncommon for gifted students to camouflage their abilities in order to maintain the status quo with their peers. Alternatively, gifted students may not exhibit these characteristics because they are bored or have regressed. Further, a great deal of variation from the gifted and talented norm appears in the same way that learning disabled students may differ vastly from one

another. An ideal set of characteristics that would serve to describe the traits of every gifted and talented student simply does not exist (Kerber, 1991). Therefore, yardstick measurements of gifted and talented behaviors are merely general in nature and do not apply to all gifted and talented students.

Studies of gifted and talented student characteristics conducted at various age levels revealed a variety of indicators. Adolescents who are gifted and talented may simply do well in school. They are ". . . high achievers in a well defined discipline such as science or literature and succeed in curricular systems that stress knowledge acquisition, linear skill building and logical analysis" (Schmitz & Galbraith, 1985, p. 31). On the other hand, gifted and talented teens may be totally indifferent to academic subject areas, but they know inordinate amounts of information about such topics as the Civil War, rock music, Reggie Jackson, or other subjects ranging in content from the serious to the lighthearted. Most significantly, however, ". . . research has overwhelmingly confirmed that many of these children do not fit the mold of the average child for whom the American classroom and curriculum have been designed" (Kerber, 1991, p. 29).

Classifications of Gifted and Talented Learners

Gifted and talented students have been classified in a variety of ways. For example, Belts and Neihart (1983) identified six categories or types of gifted and talented learners: (a) the successful learner, (b) the challenging

learner, (c) the underground learner, (d) the dropout, (e) the double-labeled learner, and (f) the autonomous learner. While as many as 90% of learners identified as gifted and talented fall into the category of successful learner as reflected in their doing well in school and scoring at high levels on achievement tests, they frequently exhibit boredom and impart only enough effort to achieve at their own desired level. They are not all the same: "Many gifted children achieve in school and are perceived as well-adjusted. . . . However research shows that many others become bored, restless, disruptive, and often use their ability to constantly challenge their teachers" (Kerber, 1991, p. 29). These students rely on extrinsic motivation from parents and teachers, allow their creativity to lie dormant, and maintain their untapped potential.

The challenging learners are highly creative. Because they feel their true value goes unrecognized, they challenge authority and become disruptive. On the other hand, they are generally outgoing, have a good sense of appropriate behavior, and are popular socially. This mixture of traits combines to increase the difficulty of recognizing their giftedness or talent (Belts & Neihart, 1983). In another category, underground learners are usually girls who appear insecure and deny their ability in order to be accepted by their peers. Pushing these students too hard or too fast may result in an increased lack of motivation, which is the reason that ". . . identifying these children as early as possible, providing them with an appropriate education

and academic atmosphere is essential to developing their potential" (Kerber, 1991, p. 29).

Gifted and talented learners classified as dropouts are characterized as being resentful and angry with themselves; they simultaneously show signs of low self-esteem and feelings of neglect. Their anger may be directed at school, home, or society in general. Education becomes unimportant, and the students are involved with activities, frequently anti-social, outside of school (Belts & Neihart, 1983). Similarly, Kerber (1991) reported:

> Alarmingly a study of high school dropouts in Iowa found that students with demonstrated IQS over 130 made up 14 percent of the dropouts. This and similar studies suggest that very intellectual students are dropping out of school at five times the rate of other student populations. One study suggests that while gifted children make up approximately 5 percent of the school-age population, the percentage of gifted students among dropouts may be as high as 40 percent. (p. 29)

Students identified as double-labeled are both gifted and handicapped. The students' disabilities encompass physical limitations, emotional disturbance, or specific learning disabilities. Consequently, they may display poor penmanship, disruptive behavior, impatience, discontent, stress, and frustration. Because these students lack the common traits of giftedness and talent, they often go unrecognized; therefore, they receive no services (Belts & Neihart, 1983). As a result, however, concern for these individuals and greater awareness of their somewhat oxymoronic abilities appeared in the literature: "These programs and people are hardly frills. . . . They represent a

commitment to help students adjust to school and to enrich their educational experiences" (Sousa, 1993, p. 37).

The autonomous learners are successful students with strong self-concepts. They take risks, are creative, and possess high levels of personal power. In addition, they appear independent and self-directed, and they are characterized as take-charge types. They seem to be well-adjusted and self-reliant (Belts & Neihart, 1983). Like those students in the other categories, the needs of the autonomous learners must also be met:

> Research has shown that many gifted children do poorly in classes designed for the average student. Without the proper stimulation and challenge, children whose tests indicated high ability when they entered school frequently scored average ability by fourth grade. Experts say this performance often continues beyond fourth grade and that these children became chronic underachievers. (Kerber, 1991, p. 29)

Numbers and Demographics of Gifted and Talented Students

Based on IQ testing, about 5% of the general population could be defined as gifted (Smutny & Blocksom, 1990). Therefore, all things being equal, one would expect to find about 5% of a district's enrollment to consist of gifted and talented students.

Gifted and talented students may be male or female, white or of color, rich or poor. A series of studies on the education of middle and junior high school, high school, and college women (AAUW, 1992; Anderson, 1988; Orenstein, 1995; Sadker & Sadker, 1994; Walker & Mehr, 1992) reported on the academic, leadership, and creative ability of young women, and decried the

loss of their giftedness as they progressed through the public schools. According to Walker and Mehr,

> Only a few studies have scientifically compared female achievement to male achievement. The benchmark is a now-famous investigation by Lewis Terman, professor of psychology at Stanford University, in 1925. Terman tracked the achievements of intellectually gifted men and women from childhood through adulthood. He found that from the first grade through college, women equaled or excelled men in school. The girls did slightly better in language usage, and the boys above age nine did slightly better in math, but, overall, *there was no significant difference* in their academic achievement. (p. 23)

After college, many women assumed traditional roles of wife and mother, did not go to graduate school, and failed to meet their preliminary expectations.

Minority students are also frequently under-represented among the gifted and talented in American classrooms. Because minority and socio-economic status are frequently related, there is also an unfounded assumption these students are less gifted and talented. In his study, for example, Ukeje (1990) found that preschoolers in the city of Newark, New Jersey, most often African-American, were not recommended for advanced programs that would push them ahead in elementary school. He demonstrated that the issue was under-identification and that this could be remedied by a combination of testing and referral, with teacher referral providing the most accuracy. Without under-identification, one would expect to find the same proportion of female and minority students identified as gifted and talented as exists in the total enrollment.

Characteristics of Educational Programs for Gifted and Talented Students

Gifted and talented programs reported in the literature feature challenging information, ideas, or methods because gifted and talented students were characterized as thriving on challenge. The assumption is that those who thrive on challenges require a challenging curriculum. Highly critical areas incorporated into common criteria for the gifted and talented were identified as academics, interpersonal communication, creativity, and leadership (Correll, 1978). Therefore, the activities of an instructional program for gifted and talented students should highlight these elements.

Although proponents of inclusion for special education students might balk at the suggestion, the literature consistently reported that the program of instruction for gifted and talented students must be differentiated from the regular program. Correll (1978), Gifted Educational Specialist for the Beaverton, Oregon, schools, indicated that not only does the differentiation need to be made, but also the specialized program must include the teaching of learning skills as opposed to merely focusing on the acquisition of prescribed facts. In addition, student self-direction must be an integral part of the program. In essence, gifted students should be afforded a wide scope of freedom and responsibility in order to build self-management capabilities and to maximize self-fulfillment and productivity.

In education, a difference exists between activities that are mind-stuffing and those that are mind-building. The notion of mind-stuffing techniques as a means to educating the gifted and talented recurs in the literature (Ruggiero, 1989). Gifted and talented students, in particular, Ruggiero suggested, should go beyond the three Rs--receiving, recalling, and regurgitating--specific facts and tidbits of knowledge which hinder the creative process. Instead, mind-building activities that develop higher-order thinking skills and train students to reason and to make informed decisions should be used. This approach fosters rational thinking skills and promotes intellectual maturity.

Since every student is unique, gifted and talented programs should also focus on the strengths and weaknesses of the individual (Baum, 1990) in order to improve those aspects of the student's make-up and to assist the person towards self-actualization. To achieve this goal as well as self-reliance, the student must feel as if he or she belongs in the situation and is valued. One way to accomplish this is to enable the student to provide input into the development of their educational program.

The argument has been presented that a lot of programs have gifted kids doing things that all children should be doing, and that what is prescribed should be in line with what makes the kids special. Key environmental factors in which the gifted student should excel are those in which ". . . students can use their strengths, explore their personal and interpersonal development, risk

new areas of thought and action, feel challenged, and become more self-actualized . . . " (WINGS, 1990).

The learning of the gifted and talented student should extend beyond the school into the home. "Giftedness is maintained and enhanced if the environment is rich with opportunities. Parents who continue their own interests in learning are good examples for children and probably are more interesting companions to them as well" (Fehrle et al., 1985, p. 26). Parent involvement is an important asset to gifted and talented programs as it is for most educational endeavors in order to maintain open communication among the school, the student, and the parents. Quality programs for gifted and talented students are characterized, in part, by carryover to the home through discussion, involvement, and enthusiasm. In addition, concepts learned in school should be reinforced at home along with enrichment activities such as trips, vacations, and family activities which could develop talents, skills, and new interests.

Gifted and talented students, in particular, need activities ". . . that enable them to operate at complex levels of thought and feeling" (Gifted Association of Missouri, 1991, p. 2). Group interaction which provides stimulating discussions with intellectual peers as well as opportunities for social adjustment is critical. Gifted and talented programs should enable students to learn at an accelerated pace, expand areas of interest, and acquire new skills. The program of instruction should vary and be integrated with

field trips, projects, and special activities. Varied techniques including vertical and horizontal acceleration are important in gifted and talented programs in order to combat boredom and to provide appropriate stimulation to address the needs of each learner.

Cognitive needs which deal with perception and knowledge and affective needs which concern emotion and feelings must both be addressed for gifted and talented students (WINGS, 1990). Promoting understanding of the self and others is critical as well. "As interest in the concept of self increased, researchers found that the view of self determines achievement and enhances or limits the development of a person's potential" (WINGS, 1990, p. 8).

Although quality programs for gifted and talented students may vary, certain characteristics tended to reappear. For example, gifted and talented students must be protected from exploitation: "Special classes should not be given publicity beyond that given other groups; neither should the children be singled out to display their giftedness for the public" (Fehrle et al., 1985, p. 15). In addition, the curriculum for the gifted and talented student must be "qualitatively different" (WINGS, 1990, p. 13). Too, the role of the teacher must be that of a guide or a mentor rather than an omniscient purveyor of information (Smutny & Blocksom, 1990). The student must also be active rather than passive and determine the path of his or her own learning. The unique quality of the students must be addressed through a variety of

instructional techniques, educational experiences, and home involvement activities.

Program Types and Delivery Systems

Program type is a broad term engulfing various general techniques utilized in an education program at both the elementary and the secondary levels. "Efforts at schooling intellectually superior students over the past 50 years fall into four major types: enrichment, grouping, acceleration, and guidance" (Correll, 1978, p. 24), which may be integrated throughout numerous delivery systems working independently or simultaneously (Correll, 1978). Critical, however, is the articulation of programs from elementary school through secondary school. "If accelerated programs cannot be continued, it is usually wasted energy for the education [of the student] and a frustrating experience for the student" (Fehrle et al., 1985, p. 14).

Enrichment Activities

Enrichment activities for gifted and talented students have been identified as the most common technique used in schools at this time (Correll, 1978). These activities are characterized as experiences that replace, supplement, or extend instruction normally offered by the school. Enrichment has occurred in heterogeneously grouped classes as well as in special classes for gifted and talented students. In its most common form, enrichment

involves independent study, part-time special groups, seminars, field trips, and summer programs.

The degree of structure of enrichment activities depends upon the student's maturity level, personal make-up, and interest. Independent study, for example, requires self-direction and self-reliance; therefore, it is typically a short-term activity. In addition, enrichment programs should include sequential advancement from one level to the next (Smutny & Blocksom, 1990). The first step might be an exploratory experience, a field trip, a guest speaker, or some other motivator or stimulus to the next step. The second step might consist of problem-solving strategies such as research papers and presentations, while the third step could involve greater examination of aspects identified during the problem solving stage. The duration of each phase is typically determined by the interest and needs of the gifted and talented learner.

Grouping

Grouping is used in various delivery systems. Requiring resource personnel and enhanced by special learning devices, grouping may occur within a special (pullout program) or a regular classroom setting, in a special club, or in an alternative school. Activities might range from discussion groups to mini-courses, accelerated classes, and special clubs and may happen during school time or non-instructional time. Grouping generally takes the form of

clusters based on mutual abilities, interests, and learning styles to make the learning more fun (Schmitz & Galbraith, 1985).

Seminars, summer classes, and mini-courses are employed widely in the education of the gifted and talented. These might occur during school, in the evening, or on weekends and vary in length depending on the provider or the topic. Summer classes have been provided by colleges and universities and state departments of education. "The Scholars' Academe," a program in Missouri, for example, is sponsored by the Missouri Department of Elementary and Secondary Education. It gives high school sophomores the opportunity to receive special instruction and interaction with intellectual peers. "Summerscape," a program at Drury College in Springfield, Missouri, serves area students enrolled in elementary, middle, and high schools.

Accelerated Programs

Accelerated programs provide learning activities beyond the scope of regular class offerings. Vertical acceleration involves advancement to a higher grade level in one or more subjects. Historically, in elementary schools this was known as skipping a grade. Advanced levels of comprehension, adaptability to new situations, and proficient recall of information are typically prerequisites for vertical acceleration (Chuska, 1989; Schmitz & Galbraith, 1985). The second avenue is horizontal acceleration which means the in-depth study of specific subject matter which is normally conducted at one grade level.

"The goal of the accelerated class is to provide students with the opportunity to move quickly through basic subject matter, thus permitting the gifted child to skip a year or to telescope [his or her] school experience" (Fehrle et al., 1985, p. 14).

Accelerated programs for the gifted and talented encompass early entry into preschool at one end of the spectrum and advanced placement into college programs at the other (Correll, 1978). "Many secondary schools participate in advanced placement programs that allow academically talented college bound students to take college level courses during the last year of high school" (Correll, 1978, p. 31). Advanced placement programs are either at the high school or on the college campus. Completion of college level classes and successful mastery of course content yield dual credit--both high school and college--for the gifted and talented student.

The College Board offers a testing program which enables high school students to take Advanced Placement (AP) classes in high school and then to receive college credit based on their success on the AP tests. "The College Board reports that its advanced placement program now exists in one-third of the nation's high schools that graduate two-thirds of all seniors who are college bound" (Alvino, 1988, p. 15). This particular program provides an appropriate match between content and student: "Fit might be a better term than acceleration, meaning that the curriculum is tailored to the child's level of intellectual development" (Lewis, 1989, p. 17). In addition, local schools and

colleges engage in close working relationships (Alvino, 1988). An extra benefit is that gifted and talented students are exposed to the academic rigor of college while they are still in the semi-protected environment of the high school and the home, and they get a good sense of the expectations of full-time college study.

More than one school of thought appeared in the literature on advanced placement classes. One side argued, "To boost academic rigor at the high school level and to improve graduates' readiness for college or other post-secondary learning, high schools should be encouraged to increase the use of advanced placement courses" (Davis, 1993, p. 8). On the other hand, caution should be taken in entering into an advanced placement program: "Acceleration may not be the best course for every gifted child and should not be applied automatically" (Correll, 1978, p. 32). The most important consideration is what is best for the individual.

Guidance

Guidance is also a critical part of the educational experience for gifted and talented students. In group sessions, study groups, and individual conferences, students can learn to understand themselves and others.

> The counselor can play a critical role in the development of the gifted child. From identification to adjustment crises to career guidance, the services of the counselor often may prove to be the difference between a productive, achieving, happy individual and one saddled with high expectations but unable to satisfactorily meet the perceived demands of the world. (Gifted Association of Missouri, 1987, p. iv)

Guidance and counseling should not be overlooked for gifted and talented students because:

> Failure to help the gifted child is a societal tragedy, the extent of which is difficult to measure, but which is surely great. How can we measure the sonata unwritten, the curative drug undiscovered, the absence of political insight? They are the differences in what we are and what we could be as a society. (Gifted Association of Missouri, 1987, p. 2)

Group counseling appears to be particularly effective with gifted and talented students because this enables them to interact with intellectual peers: "Interacting with others of the same ability level is a major source of learning where children practice social and behavioral skills and get feedback about themselves" (Webb, Meckstroth, & Tolan, 1985, p. 147). Interaction also serves to build understanding and awareness of the self and others as well as to establish a strong self-concept. Gifted and talented students do not always understand their own weaknesses:

> For all too many gifted children, self-concept rests heavily, if not entirely upon being gifted and on accomplishments. It is precarious for any person to hang self-concept on only one hook, particularly if that hook happens to be the impossible one of achieving perfection. (Webb et al., 1985, p. 20)

Being gifted is a valuable asset; being comfortable with one's self and others may even be more important in the world. This is called socialization.

Delivery systems for gifted and talented education are typically confined to three basic types: (a) pullout programs, (b) special schools, and (c) advanced placement programs.

Pullout Programs

In a pullout program, the most common delivery system, a resource room is generally used where the main goals are to polish high level skills, evaluate and refine thinking, and develop problem-solving abilities. Pulled out of class for two or three periods each week, the gifted and talented students experience enrichment activities, intellectual peer interaction, and special projects. In addition, in the resource room, creativity is cultivated. Because the clientele is homogenous, the pullout program encourages interaction with intellectual peers and fosters an atmosphere which is both stimulating and pertinent.

Pullout programs are not the only answer to the needs of the gifted and talented students, however. According to Feldman (1985), who conducted a survey of GATE programs, pullout programs address these students only on a sporadic basis, for they are not gifted only for two or three periods each week. In spite of this, she found that pullout programs enjoy popularity:

> Pullout programs, present in more than 70 percent of districts that responded to the survey, are popular because they are easy to start up, are visible, and don't require native staff retraining. Children can remain with their age peers and still get frequent stimulation from their intellectual equals. (Feldman, 1985, p. 64)

Feldman further indicated that pullout programs are outdated because they are "a short-time solution to a full-time problem" (p. 64). Landsmann argued, however, that a pullout program is better than no program at all: "While not

the best solution, one day a week in a well run program with a creative teacher can make a tremendous difference for many children" (1985, p. 71).

Special Schools

As the interest in educational programs for the gifted and talented has grown, the popularity of special schools has emerged as one possible avenue for meeting the needs of this unique clientele. Curriculum in these schools typically blends traditional components with specialized studies such as the basic sciences and the arts. The major argument against the special school is the students' lack of contact with peers not identified as gifted and talented, which might result in poor understanding and acceptance of others in general.

Advanced Placement Programs

Another delivery system for gifted and talented education, the advanced placement program, can consist of grade level jumping or early college entrance, either full- or part-time. Services begun in elementary school should continue through the secondary level. The merits of this approach include preparation of students for the rigors of college while still in a high school environment as well as the integration of two uniquely different learning atmospheres. This has proven to be successful for gifted and talented students: "Educational history repeatedly shows that 16 year olds are mature enough to succeed at college and that teenage students behave better in a college environment" (Lieberman, 1994, p. 57). This combination further

provides exposure to real world experiences, contacts, and information which introduces students to different values as well as familiarity with a new aspect of society.

Tailoring Programs for Gifted and Talented Students

Gifted and talented students are unique; therefore, they require special educational approaches. Gifted and talented students, in fact, may be defined as ". . . those that need academic instruction beyond the regular school offerings" (Waller, 1988, p. 3). Critical to tailoring programs for gifted and talented students is appropriate and accurate identification and assessment. The process leading to successful programs, then, is (a) screening, (b) referral, and (c) individualization of instruction. Using a variety of test data for identification also yields opportunity for program design regarding interests, educational needs, and learning style.

Key elements in the assessment of the gifted and talented students include results from reliable IQ tests, criterion-referenced tests, and norm-referenced tests. Interest inventories and personality profiles such as the Myers Briggs Type Indicator (MBTI) have also been deemed useful. The MBTI, in particular, enables the program designer to group students according to personality preferences which affect learning as well as to learning styles. For example, creative students could be paired or grouped with more technically-oriented students to benefit both on project performance and in

development of additional skills. Alvino (1989, April) provided further justification for use of the MBTI:

> For example, an intuitive type needs a sensing type to help bring up pertinent data, apply experience to problem solving, and pay attention to detail. A sensing type needs an intuitive to expose new possibilities, supply ingenuity, and keep an eye out for the forest. Likewise, a feeling type needs a thinker to analyze, organize, and raise obstacles in advance. A thinker needs a feeling type to help persuade, conciliate, and pay attention to others' feelings. (p. 3)

The pairing and grouping of gifted and talented students according to different learning styles should not be used all the time because highly motivated students may be most effectively served by discovery approaches. Some, in fact, are quite adept at organizing and heading group activities, while others achieve better on independent study projects.

In a study of gifted students conducted by Mills, the MBTI was used to see if specific personalities correlated to the gifted and talented student. The majority of gifted students screened for this study with the MBTI fell into five categories:

. ENTP - Extroversion, Intuition, Thinking, Perception

. ENFP - Extroversion, Intuition, Feeling, Perception

. INTP - Introversion, Intuition, Thinking, Perception

. INFP - Introversion, Intuition, Feeling, Perception

. ISTJ - Introversion, Sensing, Thinking, Judgment (Alvino, 1989, April)

The use of the MBTI as a screening tool for gifted children was supported by Alvino (1989, April):

> Although we cannot predict giftedness from psychological type or apply Mills' study to all gifted populations, the significance of type theory for understanding and teaching gifted children is profound. The most obvious implications, the diversity of types within the gifted population, contradicts the long held view that gifted children comprise a homogenous group. They do not. (p. 3)

Mills' study also revealed that traditional approaches which emphasize facts, routine, and detail most likely conflict with the majority of gifted students' interests, abilities, and preferences; therefore, tailored programs are enhanced by the understanding of the personality and learning style of the student garnered from the MBTI.

Professional Preparation

A positive result of the movement to include special education students in regular education classrooms has been the requirement by some states for an introductory course in special education for prospective regular education teachers. Many teacher preparation programs, however, do not require classes in teaching special populations unless the state requires it for certification. Consequently, most teachers and administrators enter the profession with little or no exposure to gifted and talented education. Yet, the effectiveness of educational programs for the gifted and talented hinges upon teacher awareness and professional preparation. Without these two vital ingredients, the establishment and successful operation of programs for the gifted and talented have been depicted as moot educational issues. For example,

> It is wishful thinking to suppose that hard working teachers without sufficient content knowledge, without vital knowledge of the gifted children, without time for planning programs, and with limited assistance from supervisory personnel will be able to alter, in any meaningful degree, the educational situation for gifted children. (Rogers, 1986, p. 15)

Special education law requires that a student identified as needing special education services be placed in the least restrictive environment (P.L. 94-142). The least restrictive environment is generally deemed to be the regular classroom in the neighborhood school, while the most restrictive placement might be at home or in a hospital. For gifted and talented students, pullout programs are the most common delivery system and, contrary to special education students, "Future research will prove that the regular classroom is the most restrictive environment for the gifted child unless there will be a guarantee that all classroom teachers will be helped to become more able to effectively individualize instruction" (Rogers, 1986, p. 34). Like special education students, perhaps the gifted and talented students should have an IEP (Individual Education Plan). The IEP process might engender understanding of the educational needs of the gifted and talented child.

Retraining America's teaching force is an expensive proposition. According to Rogers, reeducating all teachers would be similar to retraining 5% of America's work force. This undertaking might involve 500 initial workshops nationwide with 40 teachers trained in each. The start-up cost has been estimated at $5,000 per workshop for a grand total of $2.5 million. In

order to train every teacher in the United States, the process would need to be repeated annually and would take decades to accomplish. A more efficient and equitable proposal would be to train prospective teachers while they are still in college to become teachers of gifted and talented students. They could then conduct in-service programs in their schools. This procedure, coupled with programs offered by state departments of education and teleconferences, could quickly reeducate a sufficient number of educators to assure the establishment and quality of programs for gifted and talented students.

The classroom teacher must be prepared with a variety of techniques in order to retain the attention of the gifted and talented student. Individualized instruction using learning packets, learning stations, and programmed learning materials enables the gifted and talented student to work at his or her own pace within the regular classroom. Also effective are small-group projects and creative and critical thinking skills activities. In order for gifted and taiented education to work in the regular classroom, teacher and student must collaborate, with the teacher acting as a guide and a facilitator of learning.

Teachers would also benefit from extensive inservice training regarding the needs of gifted and talented students. "The teacher, well inserviced and provided with adequate support services is consistently identified as the critical factor in a successful program" (Rogers, 1986, p. 53). According to Cole (1990),

> When people say that the gifted will get along by themselves, they perhaps are thinking that creative boys and girls will survive in the classroom, grow to maturity, recede into society, and function as average adults. If that is what we want from them and for them, yes, they can get along. But if we want them to live at a productively creative level for the future and to serve as catalysts for the world's population in general, we need to think about how best to educate and motivate them. (p. 14)

Especially in rural areas, teachers may have a limited understanding of gifted and talented student needs. This has been attributed in part to a lack of professional preparation, limited funds to sponsor professional growth, and no incentive to establish programs for gifted and talented students. In the case of rural areas, isolation from opportunities for university training causes additional limitations.

The Cost of Programs for Gifted and Talented Students

Four methods are available that develop formulas for calculating program costs. First is the *expenditures per student* method. This method has two forms: (a) *average dollar expenditure* adds all direct and indirect expenditures and then divides the sum by the number of students and (b) *expenditures factors approach*, used in the special education component of the National Educational Finance Project (Rossmiller & Moran, 1973), creates a ratio based upon the expenditures per student overall compared to the expenditures per student for a given program. The major shortcoming of the average dollar expenditure form of the expenditures per student method is the

use of an average which is not useful for comparisons among districts. The expenditure factors approach has four flaws:

* Expenditure indices, even when based on a complete state sample, are averages that will not necessarily provide sufficient funds to support equivalent programs in all districts. Expenditure indices are most appropriately used for statewide planning purposes.

* Expenditure indices reflect current educational practice and in most cases do not reflect efficiency of educational programs.

* Expenditure indices show the relative expenditures for educating pupils in special programs compared with the expenditures for educating pupils in regular programs and provide no information concerning how wisely or efficiently funds are being expended in either type of program.

* Expenditures differ for identical programs among districts for a variety of reasons such as pupil/teacher ratio or local expenditures for salaries, materials, and supplies (Rossmiller & Moran, 1973).

The second method for developing a formula for calculating program costs for at-risk students is determination of supplemental, replacement, and common expenditures for specific programs. It is important to understand the definitions of the components: (a) supplemental funds are those used in addition to regular funds, (b) replacement refers to a program used to replace another program using the same dollars, and (c) common means money that is spent on all students regardless of program. In this method,

> . . . total the direct expenditures of the replacement programs and deduct those expenditures from those for the regular education program. The supplemental expenditures are added and then the common expenditures for general services (i.e., district administration, debt service, etc.) are allocated on a pro rata basis. (Lyons & Jordan, 1991, p. 437)

The problem, however, is that regular program services which are being replaced cannot be determined. In addition, marginal expenditures, which would increase the accuracy of calculations, generally cannot be identified in most of the financial accounting systems used in education.

The third method, *Resource-Cost Model (RCM)*, is used to determine costs of a program based upon budgeting in programmatic terms. It is a cost-based funding approach which recognizes differences in the expenditures or resources across districts as well as programmatic differences in service expenditures across districts. It is limited, however, by the fact that very few school districts budget or track expenditures by program. "The keys to RCM are identification of the programs to be recognized and the resource inputs required to adequately meet those needs" (Lyons & Jordan, 1991, p. 438). The three components of RCM are (a) assessment of student needs and program assignment; (b) specification of the input configurations corresponding to instructional programs and program needs, instructional administration and operation of programs, and general administration; and (c) determination of resource prices and total district expenditures (Chambers & Hartman, 1981).

"Resource Input Methodology (RIM)" (Lyons & Jordan, 1991, p. 438) was developed by Lyons (1990) as a means of determining costs of programs for at-risk students. It applies a variety of human and non-human, material resource input data for each program as base data for the calculation of pupil weights. This method can provide "a simple, labor-efficient, and program-

oriented methodology that can be used in calculating expenditures for educational programs" such as gifted and talented (Lyons & Jordan, 1991, p. 445). RIM is used to determine program costs "through the utilization of median costs for specified program resources" (Jordan & Lyons, 1994, p. 49).

Summary

In this chapter, the literature related to gifted and talented programs was reviewed including identification of gifted and talented students, program design, delivery systems, teacher preparation, tailored programs, and program costs. Pervasive throughout the review was the belief that gifted and talented students are so unique that they should be educated in a way different from their peers. In addition, the perception of the gifted and talented student as being *at-risk* is widespread. Those who argue in favor of inclusion of special education students in regular education classrooms have not included gifted and talented students in their argument.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Introduction

In the state of Nevada, gifted and talented education programs are not mandated. Because the Nevada Department of Education does not have human or financial resources to identify, monitor, or evaluate these programs, no information has been available. Therefore, the purpose of this study was to investigate gifted and talented education programs in the public school districts in the state of Nevada. The goal was to determine criteria utilized in the identification of gifted and talented students in Nevada and to identify the rationale for tailoring subsequent educational programs for those children.

The following research questions guided this study of gifted and talented education programs in the 17 public school districts in Nevada:

1. Who is served in gifted and talented education programs in public school districts in the state of Nevada?

2. Are the demographic characteristics of gifted and talented students similar to the students in the districts as a whole?

3. How are students served in gifted and talented education programs in terms of models of delivery?

4. Who serves the gifted and talented education programs in Nevada?

5. What is the cost of gifted and talented programs in Nevada?

Methodology

This investigation was composed of a survey and a cost study. The population under study was the state of Nevada and its gifted and talented education programs and program costs. Data were gathered from the 17 school districts as well as from the Nevada Department of Education in Carson City (1997).

The need for programs for gifted and talented students has been established through the literature. For example, means for identifying gifted and talented students include IQ tests, teacher observation, and parent referral. Further, program types consist of enrichment, grouping, acceleration, advanced placement, and guidance. Delivery systems may be comprised of pullout programs, special schools, and advanced placement programs.

Do programs exist in Nevada? If so, how are students identified, programs funded, and teachers prepared? A survey ". . . explores and evaluates many aspects of the school system . . . and utilizes a variety of instruments and methods to study relationships . . . and comparisons between groups" (Borg & Gall, 1983, p. 405). Answers to the research questions did, in fact, provide a wealth of data yielding a standardized picture of gifted and talented education programs in Nevada's public school districts.

Population

The population used in this study was the state of Nevada with its 17 coterminus county districts. All 17 districts responded to the survey. Nevada's 17 school districts and counties are coterminous. Only three counties--Clark, Washoe, and Carson City--have urban centers, although Clark and Washoe also contain significant rural areas. In fact, Clark County includes about two-thirds of the population of Nevada and is the tenth largest school district in the nation with nearly 180,000 students and 200 schools. The other 14 counties are decidedly rural. In Table 1, Nevada's counties are listed with their 1990 census populations and their size in square miles. It is important to note that Nevada contains some of the fastest growing areas in the country, so that 1990 population data are understated.

Survey

To collect data systematically, a survey was used. The questionnaire was designed by the investigator as a result of information provided by the literature review as well as input from state GATE experts. Questions were created with the goal of providing answers to the research questions. Cost study questions, specifically, were based on a resource input methodology (RIM) as used by Jordan (1996, April 4). RIM uses cost data from a variety of variables to compute a per-pupil expenditure for a specific program, in this case, Nevada's GATE programs.

Table 1

Population, Proportion of Population, and Size of Nevada's 17 Counties

County	1990 Population	% of State Population	Square Miles
Carson City	40,433	3.36	153
Churchill	17,938	1.49	74,913
Clark	741,459	61.59	8,084
Douglas	27,637	2.30	751
Elko	33,530	2.79	17,181
Esmeralda	1,344	0.11	3,570
Eureka	1,547	0.13	4,182
Humboldt	12,844	1.07	9,704
Lander	6,266	0.52	5,621
Lincoln	3,775	0.31	10,650
Lyon	20,001	1.66	2,024
Mineral	6,475	0.54	3,837
Nye	17,781	1.48	18,064
Pershing	4,336	0.36	6,031
Storey	2,526	0.21	262
Washoe	254,667	21.16	6,608
White Pine	9,264	0.77	8,905
Total	1,203,813	99.85*	180,540

* Does not add to 100% due to rounding

The questionnaire was sent to two persons: the program director in each district responsible for gifted and talented education and the budget

director who has knowledge of gifted and talented program costs. If no such persons were identified, the questionnaire was completed by the superintendent or a designee. A stamped, self-addressed envelope was included in the mailing. After 15 days, a follow-up was provided. For those districts outstanding, their district superintendents were contacted by telephone. In addition, a new survey was sent if needed with a second request.

Because the survey information included nothing of a confidential nature, no effort to hide the identity of the respondent was made. In fact, the respondents were asked to indicate their name and telephone number in the event that additional information became necessary.

Response Rate

Because of the small population size, the response rate was a critical feature of this study (Dillman, 1978) although, as it turned out, all 17 surveys were returned. The unit of analysis for this study was the county; however, as indicated in Table 1, the population of Nevada is not distributed evenly by county. Therefore, to determine desired response rate, a standard percentage of response by county may not have had meaning if those counties that responded were all very sparsely populated. Consequently, the desired response rate was set based on the proportion of the population of the state contributed by the county. Proportional population data were presented in Table 1.

The response rate was set at 90% and was determined by the percentage of the population represented as follows:

County Population/Nevada Population = % Nevada Population Representation

Based on the 1990 census data displayed in Table 1, Clark County represented 61.59% and Washoe County 21.16% of the state's population. Therefore, these two counties needed to be included to achieve the 90% desired response rate. On the other hand, 8 (47.1%) of the 17 counties in Nevada each contributed less than 1% of the state's population. Therefore, even if none of these sparsely populated counties had responded, the response rate would still have met the desired level of 90%.

To increase the response rate, each district superintendent or person responsible for gifted and talented education, if known, was contacted by telephone at the same time the instrument was mailed (Borg & Gall, 1983). This method enabled the respondent to become acquainted with the researcher and has been shown to increase the response rate.

Cost Study

Data Collection and Instrumentation

The second part of the survey dealt with program costs. The analysis of costs utilized resource input methodology (RIM) (Lyons, 1990). Data were collected using an instrument developed specifically for the purpose based on

Jordan & Associates' Program Resources Report (1996). The purpose of the instrument was to collect resource input data specific to gifted and talented programs for analysis through RIM. RIM was used because of its simplicity in using program data and its production of a useful per pupil expenditure (PEP). The value of the PEP lies in its application to the calculation of an index for weighting GATE students in budgeting at both the district and the state level.

Data included (a) number of students, (b) number of full-time equivalent (FTE) teachers, (c) number of FTE aides, (d) number of FTE clerks and secretaries, (e) number of FTE assistant principals, (f) number of FTE principals, (g) number of FTE professional support personnel, (h) dollar amount of supplies and instructional materials, and (i) dollar amounts expended for other items--were gathered for gifted and talented programs in grades kindergarten through 12 for each district. In addition, the amount of average salary plus fringe benefits was requested for each identified position.

Validity

According to Light, Singer, and Willett (1990), validity in research describes how well the instrument assessed what was intended. Content validity refers to the ability of the instrument to cover all the domains intended in the study. In this case, content validity for the program survey was determined in advance of distribution by a panel of experts in the field of education for the gifted and talented and who also have expertise in filling out

reports of this nature. A pilot study with two districts was conducted for feedback on the construction of the survey. Resource Input Methodology (RIM), cost procedures that have been validated through previous studies (Jordan & Associates, 1996), was adhered to with an adaptation of the Program Resources Report. Program expenditures for all GATE programs in each district were reported, and average salaries with fringe benefits were provided for all categories of employees delineated.

Data Analysis

After all 17 surveys were received, responses were tabulated by district. They were then categorized in terms of the research questions. Data from the Nevada Department of Education (1997) were added to survey responses for comparison with each other and for analysis in terms of the literature review. Cost data were analyzed using RIM to determine a per pupil expenditure. Results are reported in Chapter 4.

Summary

To investigate gifted and talented education programs in the 17 public school districts in the state of Nevada, a survey and a cost study were conducted. In order to collect data systematically, a survey was sent to all individuals responsible for gifted and talented programs. Follow-up measures were used to ensure the successful response rate defined as 90% representation of the population of Nevada. As a result of these efforts, all 17

counties responded. A cost study was also carried out. Data were then analyzed, classified, and reported.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to investigate gifted and talented education programs in the 17 public school districts in the state of Nevada. The following research questions guided the research:

1. Who is served in gifted and talented education programs in public school districts in the state of Nevada?
2. Are the demographic characteristics of gifted and talented students similar to the students in the districts as a whole?
3. How are students served in gifted and talented education programs in terms of models of delivery?
4. Who serves the gifted and talented education programs in Nevada?
5. What is the cost of gifted and talented programs in Nevada?

In order to answer these questions, a survey was conducted in two parts. The first section described the participants, delivery models, and staffing of programs for gifted and talented students. The second part, based on resource input methodology (RIM), gathered information on personnel and supply costs.

Part I Survey Responses

Nevada School Districts with Programs for Students Who Are Gifted and Talented

All of the 17 Nevada school districts responded to the survey. Of these, 11 have gifted programs, and six do not. Table 2 indicates which counties have formal programs for gifted and talented students. Pershing County reported that it does not have a formal program; however, three students have been identified as gifted and talented and are served in the regular classroom in an inclusion model. Each child identified as gifted and talented is assigned a case manager who works with the classroom teacher and the parents in developing the educational program for the child. Pershing County is listed in Table 2 as having no program because of its self-report of no GATE program.

Identification of Students Who Are Gifted and Talented

Testing

District representatives were asked to list the means by which students are identified for gifted and talented programs. The frequency of the responses from the 11 districts with programs is listed in Table 3. Fourteen different methods are used with several districts employing more than one type of measurement.

Six of the 11 districts with programs for gifted and talented students use the *Wechsler Intelligence Scale for Children--Third Edition* (WISC-III) for the

Table 2

Formal Programs for Students Who Are Gifted and Talented by District

County/District	Yes	No
Carson City	X	
Churchill	X	
Clark	X	
Douglas	X	
Elko	X	
Esmeralda		X
Eureka		X
Humboldt	X	
Lander	X	
Lincoln		X
Lyon	X	
Mineral		X
Nye	X	
Pershing		X*
Storey	X	
Washoe	X	
White Pine		X
Total	11	6

Table 3

Means of Identifying Students Who Are Gifted and Talented

Test (Short Form)	Test (Full Name)	Frequency of Use
WISC-III	Wechsler Intelligence Scale for Children--Third Edition	6
Creativity	Creativity	3
WJ-R	Woodcock-Johnson Psycho-Educational Battery--Revised	3
K-TEA	Kaufman Test of Educational Achievement	2
Norm-referenced Achievement	California Test of Basic Skills	2
Group Intelligence	Group Tests 90A and 90B	1
K-ABC	Kaufman Assessment Battery for Children	1
K-BIT	Kaufman Brief Intelligence Test	1
Learning Style Indicator	Myers-Briggs Type Indicator	1
NAT	National Achievement Test [Second Edition]	1
RPM	Raven Progressive Matrices	1
Teacher Rating Lists	Teacher-made	1
WIAT	Wechsler Individual Achievement Test	1
WRAT3	Wide Range Achievement Test 3	1

purpose of identification of students for gifted and talented programs. Three districts use the *Woodcock-Johnson Psycho-Educational Battery--Revised* (WJ-R) to measure cognitive ability, scholastic aptitude and achievement, and three use creativity tests, although they did not indicate which specific tests are used. (Based on Murphy et al. (1994), three tests for creativity, the *Creativity*

Assessment Packet (CAP), *Creativity Attitude Survey* (CAS), and *Creativity Tests for Children*, would most likely be used for this purpose in elementary and secondary schools.) Further, several districts use more than one test as shown in Table 4.

Table 4

Testing Used by Nevada Districts to Identify Students Who Are Gifted and Talented

District	Testing Used
Carson City	Not indicated
Churchill	WJ-R, Teacher Rating Lists
Clark	K-BIT, NAT, K-TEA
Douglas	WISC-III, K-ABC, RPM
Elko	WISC-III, WJ-R, WRAT3
Humboldt	Group Intelligence, Norm-referenced Achievement, Creativity
Lander	WISC-III, K-TEA
Lyon	WISC-III, WJ-R, WIAT
Nye	WISC-III, Creativity
Storey	WISC-III, Norm-referenced Achievement, Learning Style Indicator, Creativity
Washoe	WISC-III

Students who are gifted and talented exhibit a broad range of achievement and ability. Consequently, testing only for cognitive or academic performance may cause a school district to miss many students who are gifted in terms of creativity or leadership, for example. The tests used most by

Nevada districts--*Group Intelligence, K-ABC, K-BIT, K-TEA, NAT, Norm-referenced Achievement, WIAT, WISC-III, WJ-R,* and *WRAT3*--measure intelligence and academic achievement. Churchill County adds teacher rating lists, an identifier found by Ukeje (1990) to increase the validity of the GATE identification. Humboldt and Nye counties also test for creativity, and Storey County includes both creativity and learning style testing. Douglas County also uses the *Raven Progressive Matrices* (RPM) which is ". . . constructed as a nonverbal assessment of perception and thinking skills" (Murphy et al., 1994, p. 703). The involvement of a variety of tests enables district personnel to assess the child more fully in order to find the child who is gifted in ways other than academic. This is critical because ". . . research has overwhelmingly confirmed that many of these children do not fit the mold of the average child for whom the American classroom and curriculum have been designed" (Kerber, 1991, p. 29).

Referral

Ukeje (1990) recommended that referrals for testing to determine if a child is gifted and talented include both parents and teachers. In determining which students are gifted and talented, Nevada districts relied primarily on referrals from teachers and parents. In addition, counselors, administrators, and the students themselves were sources of identification of students. Referral sources are aggregated in Table 5 and indicated by district in Table 6.

Table 5

Sources of Referral of Students Who Are Gifted and Talented

Sources of Referral	Frequency
Teacher	11
Parent	10
Student	5
Counselor	6
Administrator	6
Other (Self)	1

Table 6

Sources of Referral Used by Nevada Districts to Identify Students Who Are Gifted and Talented

District	Source of Referral					
	Teacher	Parent	Student	Counselor	Admin	Other
Carson City	No response					
Churchill	X	X		X	X	
Clark	X	X	X	X	X	Self
Douglas	X	X	X			
Elko	X	X		X	X	
Humboldt	X	X				
Lander	X	X				
Lyon	X	X	X	X	X	
Nye	X	X	X			
Storey	X	X		X	X	
Washoe	X	X	X	X	X	

Clark, Lyon, and Washoe counties use a full range of resource referrals for students who might be gifted and talented. Churchill, Elko, and Storey countiesdo not accept referrals from students. Douglas and Nye counties rely on the teacher, the parents, and the student, while Humboldt and Lander counties take referrals only from teachers and parents. Clark County allows the student to self-identify.

Demographics of Nevada Students Who Are Gifted and Talented

Districts reported the number of students who are gifted and talented in terms of ethnicity, gender, and grade level. In addition, data were gathered from the Nevada Department of Education (1997). Not all districts indicated the breakdown by each category; therefore, the total number of students who are gifted and talented in Nevada is inconsistently tallied in terms of total enrollment, ethnicity, gender, and grade level. Special education, GATE, and total enrollment are shown by district in Table 7.

Ethnicity

Minority children are frequently under-represented among GATE students and over-represented in special education (Ukeje, 1990). In Nevada, about two-thirds (65.1%) of students are Caucasian, and Hispanics represent the largest minority group (18.8%). Other minority groups include African-Americans (9.6%), Asians (4.6%), and Native Americans (1.9%). Minority

student enrollment ranges from 4.7% in Storey County to 41.6% in Clark County, the state's major urban center. These data are shown in Table 8.

Table 7

Special Education, Gifted and Talented, and Total Enrollment in Nevada School Districts: 1996-1997

District	Enrollment					
	Special Education		Gifted and Talented		District Total Enrollment	
	N	%	N	%	N	%
Carson City	1,146	14.2	406	5.1	8,037	100.0
Churchill	701	14.8	113	2.4	4,743	100.0
Clark	18,319	10.2	5,689	3.2	179,106	100.0
Douglas	724	9.9	139	1.9	7,301	100.0
Elko	915	8.7	111	1.1	10,524	100.0
Esmeralda	15	12.2	0	0.0	123	100.0
Eureka	64	19.3	0	0.0	332	100.0
Humboldt	376	9.3	0	0.0	4,046	100.0
Lander	238	13.1	20	1.1	1,820	100.0
Lincoln	109	9.8	20	1.8	1,108	100.0
Lyon	835	14.2	121	2.1	5,867	100.0
Mineral	176	15.5	0	0.0	1,138	100.0
Nye	680	13.7	0	0.0	4,969	100.0
Pershing	203	20.3	2	0.2	1,002	100.0
Storey	90	18.3	16	3.2	493	100.0
Washoe	5,148	10.4	2,336	4.7	49,671	100.0
White Pine	207	11.2	0	0.0	1,851	100.0
Total	29,946	10.6	8,973	3.2	282,131	100.0

Table 8

Nevada School District Enrollment by Ethnicity: 1996-1997

District	Ethnicity											
	African-American		Asian		Caucasian		Hispanic		Native American		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Carson City	81	1.0	205	2.6	6,350	79.0	1,111	13.8	290	3.6	8,037	100.0
Churchill	107	2.3	230	4.8	3,715	78.3	354	7.5	337	7.1	4,743	100.0
Clark	24,725	13.8	9,831	5.5	104,687	58.4	38,295	21.4	1,568	0.9	179,106	100.0
Douglas	36	0.5	127	1.7	6,452	88.4	483	6.6	203	2.8	7,301	100.0
Elko	33	0.3	93	0.9	7,931	75.4	1,803	17.1	664	6.3	10,524	100.0
Esmeralda	0	0.0	2	1.6	95	77.2	12	9.8	14	11.4	123	100.0
Eureka	1	0.3	3	0.9	296	89.2	18	5.4	14	4.2	332	100.0
Humboldt	9	0.2	15	0.4	3,015	74.5	840	20.8	167	4.1	4,046	100.0
Lander	1	0.1	3	0.1	1,435	78.8	309	17.0	72	4.0	1,820	100.0
Lincoln	26	2.3	4	0.4	1,002	90.4	65	5.9	11	1.0	1,108	100.0
Lyon	31	0.5	56	1.0	4,886	83.3	600	10.2	294	5.0	5,867	100.0
Mineral	67	5.9	22	1.9	798	70.1	76	6.7	175	15.4	1,138	100.0
Nye	61	1.2	94	1.9	4,175	84.1	509	10.2	130	2.6	4,969	100.0
Pershing	2	0.2	10	1.0	705	70.3	225	22.5	60	6.0	1,002	100.0
Storey	0	0.0	4	0.8	470	95.3	16	3.3	3	0.6	493	100.0
Washoe	1,758	3.5	2,391	4.8	36,087	72.7	8,148	16.4	1,287	2.6	49,671	100.0
White Pine	7	0.4	9	0.5	1,547	83.6	209	11.2	79	4.3	1,851	100.0
Total	26,945	9.6	13,099	4.6	183,646	65.1	53,073	18.8	5,368	1.9	282,131	100.0

GATE students should reflect a district's and a state's ethnic breakdown (Ukeje, 1990). GATE student enrollment is reported in the aggregate in Table 9 and by district self-report for those districts with GATE programs in Table 10. Comparisons between tables 8 and 10 reveal the differences in ethnic distribution between total district and GATE enrollment. Two districts--Lyon and Storey--did not report the ethnicity of GATE students.

In every case, the proportion of Caucasian students in the GATE enrollment significantly exceeds the proportion in the overall student body. Every district reported a smaller proportion of African-American and Hispanic students identified as gifted than appears in the general student population. Asians are slightly over-represented in Carson City, Clark, Douglas, Elko, and Humboldt counties. Lander County's one Native American GATE student represents 5% of all that district's 20 GATE students and incorrectly suggests an over-representation of Native American students in the GATE program.

Gender

According to Sadker and Sadker (1995), the academic needs of girls are not well-addressed in public schools. As a result, girls are not well-represented in GATE programs. The proportion of girls in GATE programs in Nevada (48.4%) is slightly less than the 48.5% of females enrolled in the state's public school districts. Supporting data are exhibited in tables 11 and 12.

Table 9

Nevada Students Who Are Gifted and Talented by Ethnicity

Ethnicity	GATE		State	
	N	%	N	%
African-American	418	4.7	26,945	9.6
Asian	585	6.6	13,099	4.6
Caucasian	7,189	81.6	183,646	65.1
Hispanic	566	6.4	53,073	18.8
Native American	62	0.7	5,368	1.9
Total	8,820	100.0	282,131	100.0

On initial inspection, the proportion of females (48.4%) to males (51.6%) appears to be reasonable. In the larger districts, the distribution of males and females followed the statewide pattern, but in the smaller districts, the distribution was not normal. Closer investigation, however, reveals that the data are skewed due to different among the counties. Clark County with 86.1% of gifted students reported by gender exhibits an even distribution of boys and girls. The other counties, because of their significantly smaller numbers, are diluted by Clark County. As a result, a county like Lander has only six female GATE students who account for only 30.0% of their GATE enrollment. This by itself would indicate a substantial under-representation of girls than is evidenced by aggregating the data. The only county besides Clark approximating an even gender distribution is Elko (47.7%).

Table 10

Nevada School District Enrollment in GATE Programs by Ethnicity: 1996-1997

District	Ethnicity											
	African-American		Asian		Caucasian		Hispanic		Native American		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Carson City	0	0.0	11	2.8	361	91.2	21	5.3	3	0.7	396	100.0
Churchill	1	0.7	6	4.3	126	91.3	3	2.3	2	1.4	138	100.0
Clark	390	6.8	454	7.9	4,415	77.0	437	7.6	38	0.7	5,734	100.0
Douglas	1	0.5	2	1.0	201	98.0	1	0.5	0	0.0	205	100.0
Elko	0	0.0	2	1.9	101	94.4	3	2.8	1	0.9	107	100.0
Humboldt	0	0.0	2	2.6	67	87.0	8	10.4	0	0.0	77	100.0
Lander	0	0.0	0	0.0	18	90.0	1	5.0	1	5.0	20	100.0
Lyon	N/A	--	N/A	--	N/A	--	N/A	--	N/A	--	119	100.0
Nye	0	0.0	0	0.0	9	100.0	0	0.0	0	0.0	9	100.0
Storey	N/A	--	N/A	--	N/A	--	N/A	--	N/A	--	17	100.0
Washoe	80	3.4	82	3.5	2,100	89.9	74	3.2	0	0.0	2,336	100.0
Total	472	5.2	559	6.2	7,398	82.0	548	6.1	45	0.5	9,022	100.0

Table 11

Nevada School District Enrollment by Gender: 1996-1997

District	Enrollment					
	Female		Male		Total	
	N	%	N	%	N	%
Carson City	3,908	48.6	4,129	51.4	8,037	100.0
Churchill	2,355	49.7	2,388	50.3	4,743	100.0
Clark	87,053	48.6	92,053	51.4	179,106	100.0
Douglas	3,473	47.6	3,828	52.4	7,301	100.0
Elko	5,112	48.6	5,412	51.4	10,524	100.0
Esmeralda	51	41.5	72	58.5	123	100.0
Eureka	168	50.6	164	49.4	332	100.0
Humboldt	1,958	48.4	2,088	51.6	4,046	100.0
Lander	862	47.4	958	52.6	1,820	100.0
Lincoln	509	45.9	599	54.1	1,108	100.0
Lyon	2,836	48.3	3,031	51.7	5,867	100.0
Mineral	530	46.6	608	53.4	1,138	100.0
Nye	2,350	47.3	2,619	52.7	4,969	100.0
Pershing	469	46.8	533	53.2	1,002	100.0
Storey	230	46.7	263	53.3	493	100.0
Washoe	24,001	48.3	25,670	51.7	49,671	100.0
White Pine	860	46.5	991	53.5	1,851	100.0
Total	136,725	48.5	145,406	51.5	282,131	100.0

Table 12

Nevada School District Enrollment in GATE Programs by Gender: 1996-1997

District	Enrollment					
	Female		Male		Total	
	N	%	N	%	N	%
Carson City	132	33.3	264	66.7	396	100.0
Churchill	56	40.6	82	59.4	138	100.0
Clark	2,857	50.0	2,860	50.0	5,717	100.0
Douglas	N/A	--	N/A	--	205	100.0
Elko	51	47.7	56	52.3	107	100.0
Humboldt	53	46.1	62	53.9	115	100.0
Lander	6	30.0	14	70.0	20	100.0
Lyon	46	38.7	73	61.3	119	100.0
Nye	4	44.4	5	55.6	9	100.0
Storey	6	35.3	11	64.7	17	100.0
Washoe	*	--	*	--	2,336	100.0
Total	3,211	48.4	3,427	51.6	6,638	100.0

* Only secondary students were reported.

Grade Level

GATE students in Nevada are identified as such starting in Grade 1. The bulk of programs offered are in grades 3 through 6 which enroll 78.7% of GATE students. Total school district enrollment for all Nevada districts is indicated by grade level in Table 13. In Table 13, pre-kindergarten refers to 3 and 4 year-olds receiving special education per NRS 388.490. GATE

Table 13

Nevada School District Enrollment by Grade Level: 1996-1997

District	Enrollment by Grade															
	PK*	K	1	2	3	4	5	6	7	8	9	10	11	12	UNG	Total
Carson City	10	650	678	615	635	589	609	657	624	627	618	655	569	470	31	8,037
Churchill	293	367	435	398	366	358	336	385	349	384	378	332	295	267	0	4,743
Clark	1,056	14,936	16,443	15,560	14,976	14,458	14,397	13,856	13,339	13,130	13,137	12,451	11,207	9,655	505	179,106
Douglas	63	508	558	523	569	551	593	568	591	555	622	596	561	440	0	7,301
Elko	62	907	966	867	795	818	859	816	806	803	851	746	646	576	6	10,524
Esmeralda	0	20	15	11	10	8	5	16	14	24	0	0	0	0	0	123
Eureka	0	24	22	26	30	29	34	24	17	26	23	24	25	26	2	332
Humboldt	14	328	372	328	327	329	322	339	319	301	331	260	258	218	0	4,046
Lander	9	217	158	167	143	111	133	154	143	132	123	120	105	96	6	1,820
Lincoln	22	57	68	66	69	70	61	65	66	92	115	137	136	80	4	1,108
Lyon	42	419	500	452	458	454	492	451	502	481	187	452	364	311	2	5,867
Mineral	27	89	97	117	75	90	97	89	85	61	69	97	84	61	0	1,138
Nye	43	367	395	378	362	377	396	423	390	379	482	388	287	302	0	4,969
Pershing	11	87	94	93	86	79	84	75	77	68	83	50	58	54	0	1,002
Storey	1	19	45	39	41	39	40	35	45	37	38	51	31	29	0	493
Washoe	291	3,819	4,425	4,320	4,088	4,075	3,993	3,966	3,916	3,790	3,625	3,506	3,147	2,615	95	49,671
White Pine	12	156	141	130	122	156	119	145	148	151	180	134	139	116	2	1,851
Total	1,759	22,970	25,412	24,090	23,155	22,597	22,570	22,064	21,431	21,041	21,162	19,999	17,912	15,316	653	282,131

*Pre-kindergarten refers to three and four year olds receiving special education per NRS.388-490.

enrollment by grade level for each district with GATE programs is exhibited in Table 14.

From grades kindergarten through 9, enrollments in Nevada are fairly evenly distributed and then generally drop off in grades 10, 11, and 12, as shown in Table 11. GATE programs, however, are not offered in every district at every grade level. Only Carson City employs GATE in grades 1 through 12, and Lyon and Washoe counties have identified GATE students and program them from grades 2 through 12. Five districts have GATE programs only at the elementary level--Churchill and Douglas in grades 2 through 6, Clark and Elko in grades 3 through 6, and Humboldt in grades 1 through 4. Nye and Storey counties have programs only at the secondary level in grades 6 through 8. Storey County also has one GATE student in ninth grade.

The configurations of GATE programs are inconsistent throughout Nevada and do not, except for Carson City, demonstrate the recommendations proferred by the literature. Repeatedly, researchers suggested that the best way to keep students who are gifted and talented in school and interested is to articulate programs from elementary through secondary school (Correll, 1978; Fehrle et al., 1985; Smutny & Blocksom, 1990; WINGS, 1990). Only three Nevada districts--Carson City, Lyon, and Washoe--specifically identify GATE students on the high school level. Five districts--Churchill, Clark, Douglas, Elko, and Humboldt--offer no GATE programs beyond grade 6. While Clark

Table 14

Nevada School District Enrollment in GATE Programs by Grade Level: 1996-1997

District	GATE Enrollment by Grade Level													
	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
Carson City	0	1	1	43	45	47	53	43	37	31	31	28	36	396
Churchill	0	0	22	28	23	33	27	0	0	0	0	0	0	166
Clark	0	0	0	1,350	1,724	1,986	674	0	0	0	0	0	0	5,734
Douglas	0	0	32	39	43	43	48	0	0	0	0	0	0	205
Elko	0	0	0	27	29	26	25	0	0	0	0	0	0	107
Humboldt	0	16	56	59	43	0	0	0	0	0	0	0	0	174
Lander	0	0	2	2	3	6	6	1	0	0	0	0	0	20
Lyon	0	0	1	2	2	5	16	11	5	9	17	24	27	119
Nye	0	0	0	0	0	0	4	2	3	0	0	0	0	9
Storey	0	0	0	0	0	0	4	9	3	1	0	0	0	17
Washoe	0	0	41	109	145	173	223	218	239	275	279	208	213	2,123
Total	0	17	155	1,659	2,057	2,319	1,080	284	287	316	327	260	276	9,037

County offers advanced placement classes and an International Baccalaureate program in high schools, no formal GATE program is currently available at the middle school level.

Model of Delivery of Programs for Students Who Are Gifted and Talented

The review of the literature indicated an array of models of delivery of programs for students who are gifted and talented. Pullout programs are used most frequently at the elementary level, while pullout and advanced placement classes are the most often cited model of delivery at the secondary level. These data are indicated in Table 15. Models of delivery by district are displayed in Table 16.

The research on models of delivery of GATE programs encourages the use of a variety of models to address the greatest range of giftedness and talent (Smutny & Blocksom, 1990). The districts that appear to have the most varied programs are Lyon County with six models of delivery and Carson City and Washoe County each with five models of delivery. Churchill, Douglas, and Lander counties rely only on pullout GATE programs at the elementary level. Pershing County was included here because of its use of the inclusion model for its three gifted students, although Pershing reports that it has no formal program for GATE students. Models of delivery of GATE programs are shown by county in Table 15 and in the aggregate in Table 16.

Table 15

Models of Delivery of Gifted and Talented Programs in Nevada School Districts

District	Model of Delivery								
	Pullout	GATE in Regular Classroom	Collaborative-Consultative Model	Special School	Accelerated Placement	Early College Placement	Advanced Placement Classes	GATE Apart from Regular Education	Other
Carson City	E	E			S	S	S		
Churchill	E						S		
Clark	E and S		E						Before/After School (S)
Douglas	E								
Elko	E							E	
Humboldt	E						S	E	
Lander	E								
Lyon	E	E and S	E and S		E and S		S	E and S	
Nye	S						High School Math and Science (S)		
Pershing									Inclusion
Storey	S		S					S	
Washoe	E				E and S	S	S	E	One classroom of highly gifted students at an elementary school

E = Elementary
S = Secondary

Table 16

Models of Delivery of Programs for Students Who Are Gifted and Talented at the Elementary and Secondary Levels

Model of Delivery	Elementary	Secondary
Pullout	9	3
Gifted and Talented in the Regular Education Classroom	2	1
Collaborative/Consultative	3	2
Special School	0	0
Accelerated Placement (Grade Skipping)	2	3
Early College Placement	0	2
Advanced Placement Classes	0	6
Gifted Students Apart from Regular Education Classes	3	2
Separate GATE Class	1	0
Before/After School	0	1
Total	20	20

Use of the Individual Educational Program

Gifted and talented education is often treated similarly to special education. The law requires that education for special education students be individualized through the use of a personalized plan called the individual educational program (IEP). Districts were asked to report whether or not they use an IEP for students who are gifted and talented. As shown in Table 17, only two districts--Storey and Washoe--use the IEP for GATE students. One district, Douglas County, indicated the use of an IEP in some cases when

appropriate. According to the literature, programs for GATE students need to be tailored specifically for each student (Alvino, 1989, March; Waller, 1988). This task is accomplished for students receiving special education services through the IEP, a method which may be adaptable to GATE.

Table 17

Use of an Individual Educational Plan (IEP) in Nevada School Districts for Tailoring the Programs of Students Who Are Gifted and Talented

District	Yes	No	Other
Carson City		X	
Churchill		X	
Clark		X	
Douglas			In some cases when appropriate
Elko		X	
Humboldt		X	
Lander		X	
Lyon		X	
Nye		X	
Storey	X		
Washoe	X		

Administration of Programs for Students Who Are Gifted and Talented

The districts which have programs for students who are gifted and talented were asked to indicate the title and supervisor of the program. Positions ranged from teacher to superintendent. The level of supervision was

primarily determined by the size of the district. Positions and reporting lines are indicated in Table 18.

Pershing County, which treats students who are gifted and talented in the same way as special education students through an inclusion model, assigns a caseworker to each child. This individual acts as the supervisor of the student who is identified as gifted and talented.

Table 18

Administration of GATE Programs in Nevada School Districts

District	Name	Position	Title of Supervisor
Carson City	Ruth Aberastun	Director, Student Support Services	N/A
Churchill	Pat Heck	PACE Coordinator/Teacher	Director of Special Services
Clark	Ellen Sloane	Coordinator - GATE Program	Director of Program Development
Douglas	Janice Florey	Coordinator of Assessment, Grants, and Projects	Assistant Superintendent of Education Services
Elko	Dr. Gretchen Greiner	Director of Instruction	Superintendent
Humboldt	Tony Wiggins	Assistant Superintendent	Superintendent
Lander	Rosita Kottke	50% GATE, 50% Computer	Principal
Lyon	Russell Colletta Pat Boyd	Director of Special Services Associate Superintendent	Superintendent
Nye	Karen A. Scofield	Gifted Instructor	Assistant Principal
Pershing*	Caseworker for individual child	N/A	N/A
Storey	Wendy Humphries	Special Education Teacher - Middle School	Middle School Principal
Washoe	Mira Johnson	Program Coordinator	N/A

* Pershing County reported that it does not have a GATE program; however, three students have been identified as gifted and talented.

Teachers of Students Who Are Gifted and Talented

Numbers and Certification

In the 11 districts with programs, the number of teachers ranged from 0.5 to 83.8. The total number of teachers assigned to students who are gifted and talented in the state of Nevada is 127.8. For the most part, they are fully endorsed to teach in these programs, and only four teachers (3.1%) have no endorsement in gifted and talented education at all. The number of teachers and the levels of their endorsements are indicated in Table 19. Teacher certification information is displayed by county in Table 20.

Table 19

Numbers and Levels of Endorsement in Gifted and Talented Education of Teachers Assigned to Gifted and Talented Programs

Level of Endorsement	Number of Teachers	Percent
Full	75	58.6
Provisional	18	14.1
Limited	31	24.2
None	4	3.1
Total	128	100.0

Table 20

Certification Held by Teachers Assigned to GATE Programs in Nevada School Districts

District	Endorsement				
	Full	Provisional	Limited	None	Total
Carson City	4	0	0	0	4
Churchill	1	1	0	0	2
Clark	39	13	31	0	83
Douglas	3	0	0	0	3
Elko	1	1	0	0	2
Humboldt	1	1	0	1	3
Lander	1	0	0	0	1
Lyon	1	0	0	1	2
Nye	0	1	0	0	1
Storey	0	1	0	0	1
Washoe	24	0	0	2	26
Total	75	18	31	4	128

The largest district, Clark County, employs 83.8 GATE teachers and all of them are certified either fully (47.0%), provisionally (15.7%), or limitedly (37.3%). Clark County is also the only district with GATE teachers holding a limited endorsement. The only other district with a considerable number of teachers is Washoe County and nearly all (92.3%) are fully certified, although the remaining two teachers lack any endoresement in gifted and talented education. Only two other GATE teachers in the state--in Humboldt and Lyon counties--lack any GATE endorsement. The remaining teachers are

either fully or provisionally certified in gifted and talented education. This high level of certification of GATE teachers is positive for the tailoring of programs to meet the educational needs of students who are gifted and talented.

In-Service Training of Teachers

Staff development through in-service education enhances the skills, knowledge, and competence of teachers. Only three districts--Carson City, Clark, and Douglas--require in-service training of teachers who are assigned to students who are gifted and talented. In fact, Clark County requires ongoing training for its 83 GATE teachers. The remaining eight districts with GATE programs do not mandate training. Although the majority of districts do not require training, many types of training are available to teachers as indicated in Table 21. The frequency of each type of in-service training is listed in Table 22.

General staff development, learning styles theory, and teaching methods are the most frequent topics of in-service training in the school districts. Learning styles theory incorporates an understanding of the different student learning modalities. This knowledge enables the teacher to work better with the GATE student (Young & McIntyre, 1992). Learning styles theory includes cooperative learning, individualized instruction, and computer-assisted instruction, topics of in-service training in several districts as shown in

Table 21

Available and/or Required In-service Programs for Teachers of Gifted and Talented Students in Nevada School Districts

District	Type of In-service Program							
	Staff Development (Non-specific)	Identification of Students	Learning Styles	Teaching Methods	Cooperative Learning	Individualized Instruction	Computer-Assisted Learning	Other
Carson City	R	R	R	R	R	R		
Churchill	A	A	A	A	A			
Clark	R	R	R	R	R	R	R	Ongoing Training
Douglas								Assessment, Rubrics, Portfolios (R)
Elko								None
Humboldt	A		A	A			A	
Lander	A		A	A	A			
Lyon	A		A	A	A			Not Specified (A)
Nye		A	A	A				
Storey								None
Washoe	A	A		A	A			

A = Available
R = Required

Table 22

Types of In-Service Training Available to Teachers of Students Who Are Gifted and Talented

Type of In-Service Training	Frequency
Staff development	8
Learning styles theory	8
Teaching methods	8
Cooperative learning	7
Identification of students who are gifted and talented	5
Individualized instruction	3
Computer-assisted instruction	2
Assessment including rubrics, checklists, and portfolios	1
Inclusion	1
Total	43

Table 21. This array of training enables teachers to work with large- or small-group instruction or directly with the individual in the classroom in a more effective way. In-service training on identification of GATE students is required in Carson City and Clark County and is available in Churchill, Nye, and Washoe counties. Douglas County focuses on assessment, rubrics, and portfolios in its required training. The administrator for the GATE program in Douglas County, Janice

Florey, is also Coordinator of Assessment. Elko and Storey counties did not specify the types of available in-service training in their districts.

Methods of Serving Students Who Are Gifted and Talented

Completers of the survey were offered five options for methods of serving students. Two of these, optimism/pessimism theory and the Myers Briggs Type Indicator, were not cited by any of the respondents as methods of serving students. Learning styles theory was used by all but Humboldt and Washoe counties. This theory assists the teacher in tailoring the program directly to the specific way the GATE student learns best, thus enhancing his or her learning. The concept of multiple intelligences, addressed by all but Humboldt, Lander, and Nye counties, combines learning styles theory, brain-based learning, and the Myers Briggs Type Inventory into a single principle. The belief is that each person has at least one intellectual strength, but many individuals have more than one. Brain-based learning theory by itself is a consideration in Clark, Douglas, and Elko counties. Reported methods are indicated by frequency in Table 23 and by district in Table 24.

Part II Cost Study Responses

The purpose of the cost study was to determine the per pupil expenditure for students who are served in gifted and talented programs in the state of Nevada.

Table 23

Methods of Serving Students Who Are Gifted and Talented

Method of Serving Students	Elementary	Secondary
Learning styles theory	8	4
Multiple intelligences	7	4
Brain-based learning	3	1
Renzulli Triad - Emphasis on Type II activities	2	2
Various problem-solving models	1	1
Creative problem solving	1	1
De Bono	1	1
Force field analysis	1	1
Williams Model	1	1
Externships/internships	0	1

The Resource Input Methodology (RIM) was used to gather data regarding the number of students in the GATE program, the number and average salaries of staff members assigned to the program, and the dollar amount of instructional supplies attributable to the program. These data and the resulting per pupil expenditures are shown in Table 25.

To use RIM, the inputs of teacher, GATE aides, and professional and clerical support staff salaries, supplies, and other expenses were calculated in terms

Table 24

Other Methods or Considerations in the Delivery of Gifted and Talented Programs in Nevada School Districts

District	Other Methods or Considerations					
	Learning Styles Theory	Brain-Based Learning Theory	Multiple Intelligences Theory	Optimism/ Pessimism Theory	Myers-Briggs Type Inventory	Other
Carson City	E		E			
Churchill	E		E			
Clark	E and S	E and S	E and S			
Douglas	E	E	E			Renzulli Triad (E) Type II Activities (E)
Elko	E	E	E			
Humboldt						None
Lander	E and S					
Lyon	E		E and S			
Nye	S					
Storey	S		S			
Washoe			S			Williams Model (E) *Renzulli Curriculum* Compacting (E and S) Externship/Internship (S)

E - Elementary
S - Secondary

Table 25

Cost Study of Nevada Programs for Students Who Are Gifted and Talented with the Application of Resource Input Methodology

District	GATE Students #	GATE Teachers #	Average Salary $	GATE Aides #	Average Salary $	Support Staff #	Average Salary $	Professional Support #	Average Salary $	Supplies $	Other $	Direct PPE $	Total PPE $
Carson City	396	4.0	32000	0	0	1.00	28000	1.0	49000	4593	0	531.30	885.49
Churchill	138	1.5	51054	0	0	0	0	0	0	19607	1566	708.36	1180.60
Clark	5717	838	48000	0	0	1.25	36375	1.0	56850	49861	0	730.20	1217.01
Douglas	160	3.0	51025	0	0	0	0	0	0	4000	0	981.72	1636.20
Elko	107	2.0	38100	0	0	0	0	0	0	26800	10800	1063.55	1772.59
Humboldt	115	3.0	32000	0	0	0	0	0	0	0	0	834.78	1391.30
Lander	20	0.5	45000	0	0	0.003	15000	0	0	1500	0	1202.25	2003.75
Lyon	119	2.0	41500	0	0	0	0	0	0	33000	0	974.79	1624.65
Nye	11	1.0	44640	0	0	0	0	0	0	2000	0	4240.00	7066.67
Storey	17	0.5	47200	0	0	0.034	32800	0.9	53500	2000	0	4404.77	7341.28
Washoe	2135	26.0	44775	2	22000	0	0	0	0	0	0	565.88	943.13
Average Per Pupil Expenditure													2777.40
Median Per Pupil Expenditure													1624.65

Notes Direct PPE (per pupil expenditure) includes direct instruction expenditures including professional support staff and excluding assistant principals or principals.

Total PPE (per pupil expenditure) was computed by multiplying the Direct PPE by a constant of 1.67 to secure a proxy cost for current operations. This constant recognizes expenditures for general administration, building administration, operations, and other current expenditures not directly attributable to GATE programs or students. The assumption, then, is that about 60% of current expenditures can be attributed specifically to direct instruction.

of dollars. Administrators were deleted from the calculation because the data as reported were not usable. The numbers of individuals were factored in as were the numbers of students served in the GATE program. This yielded a direct per pupil expenditure (PPE) as well as a total PPE. Total PPE ranged from $885.49 to $7,341.28, with an average of $2,777.40 and a median of $1,624.65. The calculation used was as follows:

$$PPE = \frac{GT + GA + SS + PS + S}{GS}$$

where Per Pupil Expenditure (PPE) is equal to the sum of the costs of GATE teachers (GT), GATE aides (GA), support staff (SS), professional staff (PS), and supplies (S) divided by the number of GATE students (GS).

To examine the disparity of PPE, districts with GATE programs were ranked according to total enrollment, GATE enrollment, and PPE. This ranking appears in Table 26. Economies of scale seem to be a factor in lowering costs as is especially apparent with Clark, Washoe, and Carson City which are the top three in GATE enrollment and eighth, tenth, and eleventh, respectively, in terms of PPE. Two of the smaller programs--Storey (#9) and Nye (#11)--had the highest PPE. Humboldt County has the second smallest GATE program with the seventh highest PPE. Model of delivery did not appear to be a factor in PPE.

Table 26

Rank Order of Nevada School Districts by Total Enrollment, GATE Enrollment, and Per Pupil Expenditure for GATE

District	Rank		
	Total Enrollment	GATE Enrollment	Per Pupil Expenditure
Carson City	4	3	11
Churchill	8	6	9
Clark	1	1	8
Douglas	5	4	5
Elko	3	7	4
Humboldt	9	10	7
Lander	10	8	3
Lyon	6	5	6
Nye	7	11	2
Storey	11	9	1
Washoe	2	2	10

GATE programs, for the most part (96.9%), are taught by teachers who have some certification in gifted and talented education (see Table 19). The number of teachers assigned to GATE programs varies by district and produces a range of student-teacher ratios as shown in Table 27. The range of the ratio of students to teachers in GATE programs in Nevada is from 9:1 in Nye and Storey counties to 133:1 in Churchill County. These three districts have the lowest PPE as determined by RIM. Therefore, student-teacher ratio appears to be a significant factor in GATE program cost.

Table 27

Student-Teacher Ratios in GATE Programs in Nevada

County	Students	Teachers	Students:Teachers
Carson City	396	4.0	99:1
Churchill	133	1.0	133:1
Clark	5,734	83.8	68:1
Douglas	205	3.0	68:1
Elko	107	2.0	54:1
Humboldt	174	3.0	58:1
Lander	20	0.5	10:1
Lyon	119	2.0	60:1
Nye	9	1.0	9:1
Storey	17	0.5	9:1
Washoe	2,123	26.0	82:1

Comments

Participants in the survey were invited to comment, and eight respondents did. Two respondents described their programs. Last year's GATE program in Carson City was depicted as follows:

> The school district operates a formal GATE program in grades three through five, although occasionally a first or second grade student is included. There are six elementary schools in the district. During this past school year, three of the schools "clustered" the identified students while three did not. For the 1997-98 school year, all elementary schools will "cluster." Those schools not clustering had two pullout modules during each semester. The subject matter in the pullout correlated as much as possible to the regular curriculum. In the spring, all schools participated in the Artist-in-Residence program on both a pullout and

> in-classroom basis, depending upon the artist involved. Students on the secondary level are involved in advanced placement, "challenge" classes, and college placement. There is no specifically GATE program at this level.

Nye County began its program for students who are gifted and talented during the 1996-97 school year. The completer described the process for identification of students and the service delivery model:

> Possible candidates [for the gifted and talented program] are screened by a gifted committee consisting of parents, classroom teachers, students, the assistant principal, and the gifted instructor. Students are tested using *WISC-III* and creativity tests by the Psychology Department through the University of Nevada, Las Vegas. Group and individual lessons are taught using *Bloom's Taxonomy of Education*. Monthly meetings are held throughout the year with gifted parents concerning curriculum, fund-raisers, etc.

Nye County's program includes students only at the middle school level--grades 6, 7, and 8.

Other respondents commented about plans for the future in terms of GATE. Storey County, for example, plans to expand from the current half-time program to a full-time one in the 1997-1998 school year. At the same time, White Pine County plans to start a GATE program for students in grades one through five. They stated that they will use "one of our units for Special Education for this position."

Eureka County, with barely a hundred students, had a gifted and talented program until three years ago, and they are currently investigating the possibility of resurrecting it. According to Eureka County respondent Dr.

Linda Hyatt. "Since we are so small. all students participate in activities that would only be for the G/T (gifted and talented)."

Humboldt County's response addressed a number of concerns:

* We are funded by district funds
* There is no program or identification beyond fourth grade with no plans to do so.
* There is no set curriculum. Each school is different.
* We see our students every day.

This district also enclosed formal guidelines for selecting students for their TAG (Talented and Gifted Program) Team. Although TAG encompasses grades two through five. kindergarten and first grade students are included when possible. A school's TAG Assessment Team. composed of the principal. the TAG teacher. one primary teacher. and one intermediate teacher. meets regularly during the course of the school year as students are referred for consideration for the TAG Team. Assessment consists of scores from the *Achievement Test Total Battery* and referral from a teacher. a parent. or the principal. Results of ability assessment tests may also be used. No grades are assigned by elementary TAG teachers. although progress reports may be issued. Further. students are not required to make up classroom work missed because of TAG participation.

Summary

The function of this chapter was to disclose the data reported through the survey. The first part consisted of tabulated findings from the program survey which sought information from each school district in Nevada about the presence of a gifted and talented program; the method of identifying students including testing and referral; a description of the students in terms of ethnicity, gender, and grade level; the model of delivery; the use of an IEP to tailor programs for students; the administration of the program; teacher certification and training; and methods of serving students. The second part, the cost study, produced a per pupil expenditure for the gifted and talented students based on Resource Input Methodology (RIM). Finally, comments from the completers were included.

All 17 school districts in Nevada responded to the survey. Only 11 of the 17 districts have formal gifted and talented programs. The six which do not--Esmeralda, Eureka, Lincoln, Mineral, Pershing, and White Pine--combined contain only 2.2% of the population of the state (see Table 1). Conversely, the 11 districts with programs serve nearly 98% of the population of the state of Nevada. Further, districts did not report student data in every category requested. As a result, the total number of students identified as gifted and talented varied during the analysis.

The proportion of student identified as gifted and talented in the state of Nevada (3.2%) is smaller than that reported in the literature (5%) (Smutny

& Blocksom, 1990). This may be due to the fact that the majority of programs are restricted to the elementary level; therefore, secondary students are not identified as gifted and talented for programmatic purposes.

Nearly 80% (78.8%) of all gifted and talented programming in the state of Nevada occurs in grades three through six. WINGS (1990), Smutny and Blocksom (1990), and Fehrle et al. (1985), for example, argued that GATE programs must extend throughout the educational life of a child. They further emphasized the need for articulation of programs from kindergarten through secondary school so that the GATE student continues to be challenged and does not become bored leading to dropping out. "If accelerated programs cannot be continued, it is usually wasted energy for the education [of the student] and a frustrating experience for the student" (Fehrle et al., 1985, p. 14).

The literature reported an extensive variety of models of delivery for GATE programs. At the elementary level in Nevada, pullout programs are the most common (see Table 16). In addition, a collaborative/consultative model appears frequently. The model of educating gifted and talented students apart from the regular education classes, the option of skipping grades (accelerated placement), the provision of GATE programming within the regular classroom, and the establishment of separate GATE classes are evident as well. The most frequent model of delivery at the secondary level is advanced placement classes followed by pullout programs, grade skipping,

collaborative/consultative model, early college placement, placing gifted students apart from regular education classes, and before and after school options. Individual educational programs (IEP) are not generally used in Nevada for tailoring programs for students identified as gifted and talented (see Table 17).

The administration of a program frequently suggests the importance given to it. In Nevada, no two GATE programs are administered in the same way (see Table 18). The GATE program may be administered or coordinated by a teacher or a high-level administrator such as an assistant superintendent. That individual may, in turn, be supervised by an assistant principal or a superintendent. No trend appears even when size of district is considered.

Only three districts--Carson City, Clark, and Douglas--require in-service training for their GATE teachers. The literature recommends such training: "The teacher, well inserviced and provided with adequate support services is consistently identified as the critical factor in a successful program" (Rogers, 1986, p. 53). As shown in tables 21 and 22, a great deal of inservice training is available to GATE teachers through their districts in the areas of learning styles theory, teaching methods, and cooperative learning. This relates well to the serving of students primarily through recognition of learning styles, multiple intelligences, and brain-based learning, as reported by the districts (see Table 23).

The existence of programs for gifted and talented students in the United States appear in Appendix E (Gold et al., 1995). In Nevada, GATE programs are not mandated. Also, in spite of the fact that the literature consistently reported that gifted and talented students may be at-risk for dropping out of school, research on costs of at-risk programs does not include GATE programs (Lyons & Jordan, 1991).

Resource Input Methodology (RIM) was used to calculate the educational program expenditures (Lyons & Jordan, 1991). RIM uses a variety of human and non-human resources to determine the costs of programs for at-risk students. Although the link between the program and funding may not be direct, ". . . determination of cost is a critical first step" (Jordan, 1994, p. 49) in linking programming with funding. Based on information provided by the districts (see Table 25), the average per pupil expenditure in Nevada GATE programs is $2,777.40. The median of $1,624.65 is much lower, however, because the majority of districts spend less than $1,000 per GATE pupil. Two counties--Nye and Storey--with high personnel expenditures and low numbers of students each spend more than $4,000 per GATE pupil. This skewed both the average and the median per pupil expenditure upward.

CHAPTER 5

SUMMARY AND CONCLUSION

Introduction

The purpose of this study was to investigate the gifted and talented education programs in the state of Nevada in order to obtain a picture of GATE programming in the state. A directory of GATE program contact persons is listed in Appendix D. A survey was conducted to determine GATE participants, delivery models, and staffing of programs for gifted and talented students. The second part of the survey, based on resource input methodology (RIM), gathered information on personnel and supply costs.

Summary

GATE programs are not mandated in Nevada. Only 11 of the 17 counties have GATE programs, and only 3.2% of Nevada students are identified as gifted and talented (Nevada Department of Education, 1997) and are served through GATE programs. Most GATE students are served in grades three through six through pullout programs, although some districts offer a range of programs at a variety of grade levels. GATE programs are

coordinated, administered, and supervised in a variety of ways throughout the state, and most (96.9%) are fully, provisionally, or limitedly certified in gifted and talented education. In-service training is generally available, although it is not required in most districts. Based on data gathered by the RIM process from the individual school districts (Lyons & Jordan, 1991), the total per pupil expenditure for GATE students ranges from $885.49 in Carson City to $7,341.28 in Storey County. Economies of scale and student-teacher ratio seem to be the most important factors for driving costs down while model of delivery appears to be unrelated.

What does all of this say about programs for students who are gifted and talented in the state of Nevada? First of all, since GATE programs are not mandated, districts are free to establish them or not, identify students in inconsistent ways, offer services at somewhat random levels, and deliver programming according to the desire of the individual district. Second, although district size may dictate the means of coordination, administration, and supervision of programs, state standards and guidelines might provide some consistency in this area throughout the state. This would define the importance of GATE throughout Nevada. Third, required in-service training of teachers may lead to full certification. Finally, costs are currently based on available resources because GATE programs are neither mandated nor funded.

In Nevada, the emphasis of GATE programs is on students in grades three through six. This presents a dilemma in that ". . . giftedness can diminish and outward evidence of giftedness can disappear in a sterile environment" (Fehrle et al., 1985, p. 26). Further, because the majority of programming consists of pullout classes, the giftedness of these students is addressed for a short span of time in the context of their educational days, weeks, and years. A GATE student is not gifted and talented for only a few hours a day, a few days a week, or merely four elementary school years in his or her life.

Conclusions and Recommendations

The findings of this study justify the following conclusions and recommendations:

1. Nevada public schools do not appear to be providing GATE programs for all eligible students. Less than two-thirds of Nevada's school districts (64.7%) have GATE programs which serve 3.2% of the public school enrollment in the state. Assuming that 5.0% of all students could be gifted and talented, an additional 4,000 students could be in GATE programs. This number of under-served youth is critical because of the potential that gifted and talented individuals offer society in terms of creativity, leadership, intelligence, and inventiveness.

2. To promote the development of GATE programs in the state, the Nevada Board of Education should establish a GATE task force. This group should include educators, parents, public members, and elected officials who have an interest in the education of gifted and talented students. Ethnic groups should be represented in proportion to their share of the state's population. One of the charges to the task force should be to prepare a recommendation to the Nevada Board of Education concerning the need for legislation to mandate GATE programs, provide funding, and establish statewide standards. Other charges to the task force might include the merits of pilot programs in school districts to determine (a) the best practices for identifying and serving GATE students, (b) class size recommendations, (c) alternatives to pullout models, and (d) consideration of learning styles, brain-based learning, and multiple intelligences. Consideration also might be given to the merits of requiring a program plan for GATE students based on an adaptation of the IEP currently required for students with disabilities.

3. Currently, no earmarked state funds are provided for GATE programs. Based on data from the RIM cost study or further research, a weight for GATE students or a personnel unit allowance should be included in the Nevada Plan.

Recommendations for Further Study

1. Replication of this study in two years to see what progress has been made.

2. Analysis of districts that do not have GATE programs and ascertain reasons why they do not have them.

3. Survey analysis of licensing in other states.

4. Further study the Resource Input Methodology (RIM).

5. In-depth study of the selection procedures for GATE students to determine why non-Asian minorities are under-represented in GATE programs.

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APPENDIX A

NUMBERS AND TYPES OF SCHOOLS IN NEVADA (1996-97)

NUMBERS AND TYPES OF SCHOOLS IN NEVADA (1996-97)

District/County	*High Schools*	*Middle/Junior High Schools*	*Elementary Schools*
Carson City	1	2	6
Churchill County	1	1	6
Clark County	27	28	137
Douglas County	2	3	7
Elko County	7	1	18
Esmeralda County	0	0	3
Eureka County	1*	1*	2
Humboldt County	2	2	10
Lander County	2	1	3
Lincoln County	2	2	4
Lyon County	4	4	7
Mineral County	1	2	1
Nye County	3 and 2*	1	4 and 6**
Pershing County	1	1	2
Storey County	1	1	2
Washoe County	9 and 2*	11	55
White Pine County	1 and 1*	1	4 and 1**
Total	70	62	278

* Combined junior/senior high school
** Combined elementary/junior high school

APPENDIX B

CORRESPONDENCE WITH THE NEVADA SUPERINTENDENT OF INSTRUCTION

Thursenia DeHart-Porter
948 Brass Ring Road
Las Vegas, NV 89123

January 6, 1997

Mrs. Mary L. Peterson
Superintendent of Instruction
Nevada Department of Education
700 East 5th Street
Carson City, NV 89710

Dear Mrs. Peterson:

As we have discussed by telephone, I am conducting a research project for my doctoral dissertation. The design is a descriptive study of the gifted and talented education programs in the state of Nevada. I am curious to know the prevalence of programs, means of identification students who are gifted and talented, types of programs, administration of programs, funding, teacher preparation, and numbers of students. This study may be helpful to you because I understand that no such information is available in any organized fashion due to lack of mandates for gifted and talented programs in Nevada.

I need your help. Could you please provide me with a directory of districts and schools in Nevada, any programs you know of for students who are gifted and talented, the grade span of services for the gifted, or any other information about programs for students who are gifted and talented. In addition, may I also have a copy of the most recent state report on K-12 enrollment broken down by district, grade level, ethnicity, special education, and gender? If you also have budget data for each district, I would appreciate gross budget information.

May I also call upon you during the study if I need more information? I would certainly appreciate it. Upon completion of the study, I will, of course, send you a copy.

Thank you so much for your help.

Sincerely,

Thursenia DeHart-Porter
Doctoral Candidate
Department of Educational Leadership
University of Nevada, Las Vegas

MARY L. PETERSON
Superintendent of Public Instruction

KEITH W. RHEAULT
Deputy Superintendent
Instructional, Research and Evaluative Services

DOUGLAS C. THUNDER
Deputy Superintendent
Administrative and Fiscal Services

STATE OF NEVADA

DEPARTMENT OF EDUCATION
700 E. Fifth Street
Carson City, Nevada 89701-5096
(702) 687-9200 • Fax: (702) 687-9101

SOUTHERN NEVADA OFFICE
1850 E. Sahara, Suite 207
Las Vegas, Nevada 89104-3746
(702) 486-6455
Fax: (702) 486-6450

April 9, 1997

Thursenia DeHart-Porter
948 Brass Ring Road
Las Vegas, Nevada 89123

Dear Ms. DeHart-Porter:

Enclosed, per your request, please find:

- the 1996-97 school list;
- the 1996-97 Research Bulletin; and
- a summary of school district budgets.

I would be pleased to answer questions you might have, but would encourage you to talk directly with Gloria Dopf (687-9142) about statewide programs for gifted and talented students.

Best wishes for a successful study!

Sincerely,

Mary L. Peterson

Mary Peterson
Superintendent of Public Instruction

MLP/da
Enclosures
Copy: Gloria Dopf

An Equal Opportunity Agency

APPENDIX C

SURVEY INSTRUMENT

Thursenia DeHart-Porter
948 Brass Ring Road
Las Vegas, NV 89123

April 16, 1997

Ms. Ellen Sloane, Coordinator Gifted and Talented Education (GATE) Program
Clark County School District
Seigle Diagnostic Center
2625 East St. Louis
Las Vegas, NV 89104

Dear Ms. Sloane:

I need your help. I am a doctoral student in Educational Leadership at the University of Nevada, Las Vegas. For my dissertation research, I am studying the programs for students who are gifted and talented in the state of Nevada. As you know, before states commit dollars to program to serve specific kinds of students, they need information on types and costs of programs. Mary Peterson, Superintendent of Instruction for the state of Nevada, has indicated a high level of interest in this study and has requested a copy of the results.

The survey instrument is enclosed, and, as you can see, the questions do not ask about specific students or teachers, only about identification of students, programming, administration of programs, teacher qualifications in general, numbers of students, and costs.

I would appreciate it if you would forward the survey to the person in your district who is responsible for gifted and talented programs. The district budget director may be helpful in filling out Part II. Also, if you have a written description of your program such as a brochure, description for a grant proposal, or another description, would you please enclose that with your survey. Part of my study will be a directory of all of the GATE programs in the state. Please return the completed survey to me in the enclosed stamped, self-addressed envelope by **May 1, 1997.**

If you wish a copy of the results of the study and the directory, please check below. Thank you for your time, courtesy, and cooperation.

Sincerely,

Thursenia DeHart-Porter
Doctoral Candidate
Department of Educational Leadership
University of Nevada, Las Vegas

□ Please send me the results of your study plus the directory of Nevada GATE programs.

SURVEY OF DISTRICT PROGRAMS FOR STUDENTS
WHO ARE GIFTED AND TALENTED

Thursenia DeHart-Porter
Doctoral Candidate
Department of Educational Leadership
University of Nevada, Las Vegas

PART I

County _____

Person Completing Form _____

Position of Person Completing Form _____

Contact Phone Number _____ Date _____

This part of the survey should be completed by the person responsible for district gifted and talented programs, the superintendent, or the superintendent's designee. If your district has no programming for students who are gifted and talented, answer only the top section and questions #1 and #3, and then return the survey. Thank you for your help.

1. Does your district have a specific program for students who are gifted and talented?

   Yes ____ No ____

2. How do you identify students who are gifted and talented in your district? Please check all that apply.

Testing:

___ WISC-III
___ Stanford-Binet (S-B)
___ Woodcock-Johnson (WJ-R)
___ WPPSI-R
___ Group Intelligence
___ Norm-Referenced Achievement
___ Criterion-Referenced Achievement
___ Aptitude
___ Learning Style Indicator
___ Teacher Rating Lists
___ Creativity
___ Other...(Please list)

Referral:

___ Teacher
___ Parent
___ Student
___ Counselor
___ Administrator
___ Other (Please list)

3. What is your 1996-97 total district enrollment? _____

Special education enrollment (excluding gifted and talented) _____

Please also fill in the following table:

Characteristic	Number of Gifted and Talented
Ethnicity:	
African-American	
Asian	
Caucasian	
Hispanic	
Native American	
Other or Don't Know	
Gender:	
Female	
Male	
Grade Level:	
Kindergarten	
Grade 1	
Grade 2	
Grade 3	
Grade 4	
Grade 5	
Grade 6	
Grade 7	
Grade 8	
Grade 9	
Grade 10	
Grade 11	
Grade 12	
Other Grade Assignment	

4. What is the model of delivery of gifted and talented education programs in your district? Please check all that apply and indicate which programs are offered at the elementary and/or secondary level.

	Elementary	Secondary
___ Pullout (special classes)	____	____
___ GATE in the Regular Education Classroom	____	____
___ Collaborative Consultative Model	____	____
___ Special School	____	____
___ Accelerated Placement (grade skipping)	____	____
___ Early College Placement	____	____
___ Advanced Placement Classes	____	____
___ Gifted Program Apart from Regular Education Students	____	____
___ Other (Please list on back of page)		

5. Do you use an IEP or other written educational plan for your students who are gifted and talented? Yes ____ No ____

6. Who administers the gifted and talented program in your district?

Name _____

Position Title _____

Title of Person Who Supervises This Individual _____

7. How many teachers/specialists in your district are assigned to teach students who are gifted and talented? _____

8. What are the Nevada certifications and qualifications of all the teachers who teach students who are gifted and talented? (Please use additional paper if necessary.)

a. How many of your teachers hold the endorsement in gifted education? _____ _____

b. How many of your teachers hold provisional endorsement in gifted education? _____ _____

c. How many of your teachers do not hold endorsement in gifted education? _____ _____

9. Are specific in-service programs required for teachers of students who are gifted and talented? Yes ____ No ____

Please indicate the types of in-service programs your teachers have attended. (Please use additional paper if necessary.)

___ Staff development
___ Identification of students
___ Learning styles
___ Teaching methods
___ Cooperative learning
___ Individualized instruction
___ Computer-assisted learning
___ Other. . .

10. What methods or considerations are used to determine how best to serve students who are gifted and talented in your district? Please check all that apply and indicate which methods or considerations are used at the elementary and/or secondary level.

	Elementary	Secondary
___ Learning styles theory	____	____
___ Brain-based learning theory	____	____
___ Multiple intelligences theory	____	____
___ Optimism/Pessimism theory	____	____
___ Myers-Briggs Type Indicator	____	____
___ Other (Please list on back of page)		

PROGRAM RESOURCES REPORT
GIFTED AND TALENTED PROGRAMS
1996-97 School Year

PART II

School District: _____ Telephone #: _____

Person Completing Form: _____ FAX #: _____

INSTRUCTIONS FOR PROGRAM RESOURCES REPORT

Please give this form to the program director or other person who would have knowledge of the costs of programs for students who are gifted and talented. I appreciate your completion of the attached form using data for the 1996-97 school year.

(1) **Count of Students.** Use the official count date in September for number of students by program type. If you feel that this count is unfair to your district, please attach an explanation and an alternative count of students for your district.

(2) **Number of FTE Teachers.** Enter the total number of full-time equivalent (FTE) teachers by program type. Please report the portion of each teacher's time for each program area. For example, if a first grade teacher **works only** with gifted students one-third of the time, that teacher would be .67 FTE for one program and .33 for Gifted. In the same way, divide the teacher's time according to the portion of the *typical* day that the teacher may spend with bilingual or special education students. Enter only classroom teachers and special teachers. Counselors, librarians, and other professional staff will be reported in Column 7. *The sum of the FTE teachers should equal the actual number of teachers in the 96-97 school year.*

(3) **Number of FTE Aides.** Enter the number of FTE aides according to the program type in which they work. If an aide works in different programs, enter the aide's FTE under each program. *The sum of the FTE aides should equal the actual number of aides in the 96-97 school year.*

(4) **Number of FTE Clerks and Secretaries.** Enter the number of FTE clerks and secretaries at the school level. For example, the FTE for a clerk or secretary serving the entire school should be reported under the appropriate program type. *The sum of the FTE clerks and secretaries should equal the actual number in the 96-97 school year.*

(5) **Number of FTE Assistant Principals.** Assign the number of FTE Assistant Principals to the area(s) in which they work. If an assistant principal is assigned to a particular program type or area, the person's FTE should be assigned to that type or area. *The sum of the FTE assistant principals should equal the actual number in the 96-97 school year.*

(6) **Number of FTE Principals.** Assign the number of FTE Principals to the area(s) in which they work. If a principal is assigned to a particular program type or area, the person's FTE should be assigned to that area. *The sum of the FTE principals should equal the actual number in the 96-97 school year.*

(7) **Number of Professional Support Personnel.** Use this column to report certified personnel such as counselors, librarians, or special education support/diagnostic personnel. *The sum of the FTEs for these persons should equal the actual number in the 96-97 school year.*

(8) **Supplies, Instructional Materials, and Other.** Enter the amount spent for these items under the appropriate column and category.

(9) **Other.** Use this column for expenditures from *direct instruction and instructional support* that were not reported in the previous columns.

Number of FTE Staff and Staff Salary Information: For each employee group, enter the average annual salary including fringe benefits. Round amounts to the nearest $100.

PROGRAM RESOURCES REPORT
GIFTED AND TALENTED PROGRAMS
1996-97 School Year

School District: _____ Telephone #: _____
Person Completing Form: _____ FAX #: _____

Program Type (Write in)	(1) # Students	(2) # FTE Teachers	(3) # FTE Aides	(4) # FTE Clerks & Secretaries	(5) # FTE Assistant Principals	(6) # FTE Principals	(7) # FTE Prof Support Personnel	(8) Supplies & Instr Materials -- $$$	(9) Other $$$
TOTAL									
TOTAL									
Average Salary with Fringes									

Please add any comments about gifted and talented education in your district here.

Please send the completed survey in the enclosed stamped, self-addressed envelope to:

Thursenia DeHart-Porter
948 Brass Ring Road
Las Vegas, NV 89123
(702) 896-2814 (H)
(702) 727-5546 (O)

THANK YOU!!!

APPENDIX D

DIRECTORY OF CONTACT PERSONS FOR GIFTED AND TALENTED PROGRAMS IN PUBLIC SCHOOL DISTRICTS IN NEVADA

Directory of Contact Persons for Gifted and Talented Programs in Public School Districts in Nevada

State Contact

Ms. Doris B. Betts
Gifted Education Specialist
Gifted/Talented Education
Nevada Department of Education
700 East Fifth Street
Capitol Complex
Carson City, NV 89710
(702) 687-3136

District:	**Carson City**
Superintendent:	Mr. E. Leon Mattingley
Address:	P.O. Box 603 Carson City, NV 89702
GATE Program:	Yes
Grade Levels:	1 - 12
Contact:	Ruth Aberasturi Director Student Support Services
Phone:	(702) 885-6333
District:	**Churchill County**
Superintendent:	Mr. Ronald B. Flores
Address:	545 East Richards Street Fallon, NV 89406
GATE Program:	Yes
Grade Levels:	2 - 6
Contact:	Pat Heck PACE Coordinator/Teacher
Phone:	(702) 423-7195
District:	**Clark County**
Superintendent:	Dr. Brian Cram
Address:	2832 East Flamingo Road Las Vegas, NV 89121
GATE Program:	Yes
Grade Levels:	3 - 6
Contact:	Ellen Sloane Coordinator - GATE Program
Phone:	(702) 799-2380

District:	**Douglas County**
Superintendent:	Mrs. Pendery A. Clark
Address:	P.O. Box 1888 Minden, NV 89423
GATE Program:	Yes
Grade Levels:	2 - 6
Contact:	Janice Florey Coordinator - Assessment, Grants, and Projects
Phone:	(702) 782-5160
District:	**Elko County**
Superintendent:	Ms. Marcia R. Bandera
Address:	P.O. Box 1012 Elko, NV 89803
GATE Program:	Yes
Grade Levels:	3 - 6
Contact:	Dr. Gretchen Greiner Director of Instruction
Phone:	(702) 738-5196
District:	**Esmeralda County**
Superintendent:	Mr. Harold Tokerud
Address:	P.O. Box 546 Goldfield, NV 89013
GATE Program:	No
Grade Levels:	N/A
Contact:	N/A
Phone:	N/A
District:	**Eureka County**
Superintendent:	Mr. Neil Stevens
Address:	P.O. Box 249 Eureka, NV 89316
GATE Program:	No
Grade Levels:	N/A
Contact:	Dr. Linda Hyatt Director of Special Services
Phone:	(702) 237-5373
District:	**Humboldt County**
Superintendent:	Mr. Ken Lords
Address:	522 Lay Street Winnemucca, NV 89445
GATE Program:	Yes
Grade Levels:	1 - 4
Contact:	Tony Wiggins Assistant Superintendent
Phone:	(702) 623-8102

District: **Lander County**
Superintendent: Dr. Leon Hensley
Address: P.O. Box 1300
Battle Mountain, NV 89820

GATE Program: Yes
Grade Levels: 2 - 7
Contact: Rosita Kottke
Gifted and Talented/Computer Teacher

Phone: (702) 635-2886

District: **Lincoln County**
Superintendent: Mr. Vaughn Higbee
Address: P.O. Box 118
Panaca, NV 89042

GATE Program: No
Grade Levels: N/A
Contact: H. James Hill
Director, Special Student Services

Phone: (702) 728-4638

District: **Lyon County**
Superintendent: Mr. Nat Lommori
Address: 25 East Goldfield Avenue
Yerington, NV 89447

GATE Program: Yes
Grade Levels: 2 - 12
Contact: Russell Colletta
Director of Special Services

Phone: (702) 463-6800

District: **Mineral County**
Superintendent: Mr. Granvill Gage
Address: P.O. Box 1540
Hawthorne, NV 89415

GATE Program: No
Grade Levels: N/A
Contact: N/A
Phone: N/A

District: **Nye County**
Superintendent: Mrs. Geraldine Harge
Address: P.O. Box 113
Tonopah, NV 89049

GATE Program: Yes
Grade Levels: 6 - 8
Contact: Karen A. Scofield
Gifted Instructor

Phone: (702) 727-5546

District:	**Pershing County**
Superintendent:	Mr. Daniel Fox
Address:	P.O. Box 389 Lovelock, NV 89520
GATE Program:	No
Grade Levels:	N/A
Contact:	N/A
Phone:	N/A
District:	**Storey County**
Superintendent:	Mr. Dan Piel
Address:	P.O. Box C Virginia City, NV 89440
GATE Program:	Yes
Grade Levels:	6 - 9
Contact:	Karen S. Watson Director of Special Education
Phone:	(702) 847-0983
District:	**Washoe County**
Superintendent:	Dr. Mary Nebgen
Address:	425 East Ninth Street Reno, NV 89520
GATE Program:	Yes
Grade Levels:	2 - 12
Contact:	Mira Johnson Program Coordinator
Phone:	(702) 850-8015
District:	**White Pine County**
Superintendent:	Mr. Mark Shellinger
Address:	P.O. Box 150400 East Ely, NV 89315
GATE Program:	No
Grade Levels:	N/A
Contact:	Virginia Terry Director of Special Programs and Projects
Phone:	(702) 289-4851

State and National Organizations for the Gifted and Talented

Nevada Association for Gifted and Talented
Dr. John Barker, President
P.O. Box 21387, Airport Station
Carson City, NV 89721
(702) 825-3161

American Association for Gifted Children
Dr. Irving E. Alexander, President
1121 West Main Street, Suite 100
Durham, NC 27701
(919) 683-1400

Association for Gifted and Talented Students
Ms. Betty K. Turner, President
Louisiana State University
P.O. Box 16037
Baton Rouge, LA 70893
(318) 738-5459

The Council for Exceptional Children and ERIC Clearinghouse on Disabilities and Gifted Education
Ms. Sandra L. Berger, Information Specialist
1920 Association Drive
Reston, VA 22091-1589
1-800-328-0272

Gifted Child Society, Inc.
Ms. Gina Ginsberg Riggs, Executive Director
190 Rock Road
Glen Rock, NJ 07452
(201) 444-6530

Gifted Students Institute
Dr. Kathy Hargrove, Director
Southern Methodist University
P.O. Box 750383
Dallas, TX 75275-0383
(214) 768-5437

National Association for Gifted Children (NAGC)
Mr. Peter D. Rosenstein, Executive Director
1707 L Street, NW, Suite 550
Washington, DC 20036
(202) 785-1268

National Research Center on the Gifted and Talented
Dr. Joseph S. Renzulli, Director
The University of Connecticut
362 Fairfield Road, U-7
Storrs, CT 06269-2007
(203) 486-4826

National Talent Network
Dr. Theodore J. Gourley, Associate Director
Educational and Informational Resource Center (EIRC)
606 Delsea Drive
Sewell, NJ 08080
(609) 582-7000

Northwest Gifted Child Association
Ms. Barbara Folmer
P.O. Box 1226
Bellevue, WA 98009
(206) 649-8546

Supporting Emotional Needs of the Gifted (SENG)
Dr. James Delisle
Kent State University
College of Education
405 White Hall
Kent, OH 44242
(216) 672-2294

APPENDIX E

FUNDING FOR GIFTED AND TALENTED PROGRAMS BY STATE

Funding for Gifted and Talented Programs by State

State	Gifted and Talented Education	State	Gifted and Talented Education
Alabama	Y	Montana	Y
Alaska	Y	Nebraska	N
Arizona	Y	Nevada	N
Arkansas	Y	New Hampshire	N
California	Y	New Jersey	N
Colorado	N	New Mexico	Y
Connecticut	N	New York	Y
Delaware	Y	North Carolina	Y
Florida	Y	North Dakota	N
Georgia	Y	Ohio	Y
Hawaii	Y	Oklahoma	Y
Idaho	Y	Oregon	Y
Illinois	Y	Pennsylvania	Y
Indiana	Y	Rhode Island	N
Iowa	N	South Carolina	Y
Kansas	Y	South Dakota	Y
Kentucky	Y	Tennessee	Y
Louisiana	Y	Texas	Y
Maine	Y	Utah	Y
Maryland	Y	Vermont	N
Massachusetts	N	Virginia	Y
Michigan	Y	Washington	Y
Minnesota	Y	West Virginia	Y
Mississippi	Y	Wisconsin	Y
Missouri	Y	Wyoming	Y
Total		39	

NA = Information not available from material received
Note: Gold et al., 1995, pp. 61-62.

APPENDIX F

HUMAN SUBJECTS

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

DATE: December 18, 1996

TO: Thursenia DeHart-Porter (EL)
M/S 3002

FROM: Dr. William E. Schulze, Director
Office of Sponsored Programs (X1357)

RE: Status of Human Subject Protocol Entitled:
"A Study of Gifted and Talented programs in Nevada Public Schools"

OSP #303s1296-150e

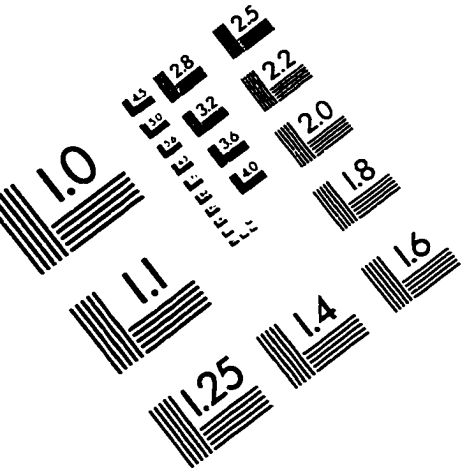
The protocol for the project referenced above has been reviewed by the Office of Sponsored Programs and it has been determined that it meets the criteria for exemption from full review by the UNLV human subjects Institutional Review Board. This protocol is approved for a period of one year from the date of this notification and work on the project may proceed.

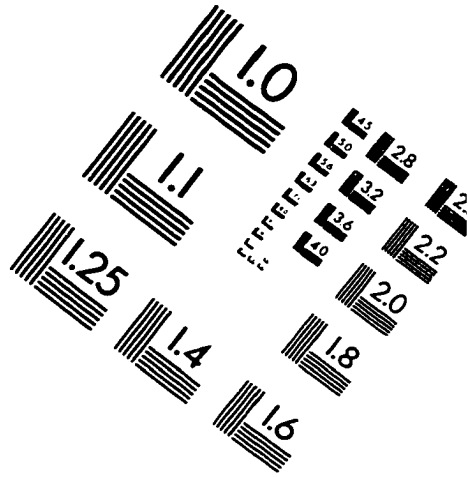
Should the use of human subjects described in this protocol continue beyond a year from the date of this notification, it will be necessary to request an extension.

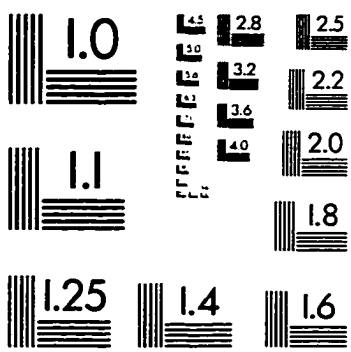
cc: Carl Steinhoff (EL-3002)
OSP File

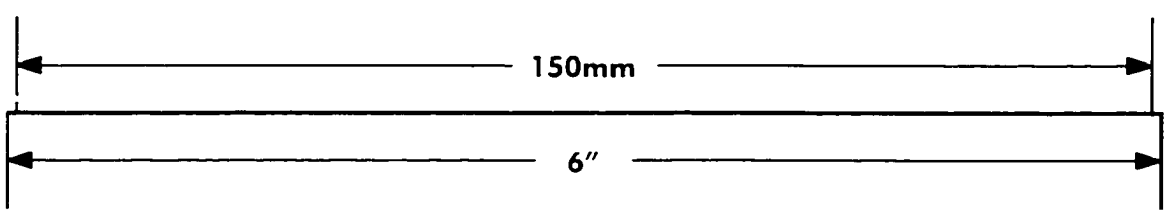
Office of Sponsored Programs
4505 Maryland Parkway • Box 451037 • Las Vegas, Nevada 89154-1037
(702) 895-1357 • FAX (702) 895-4242

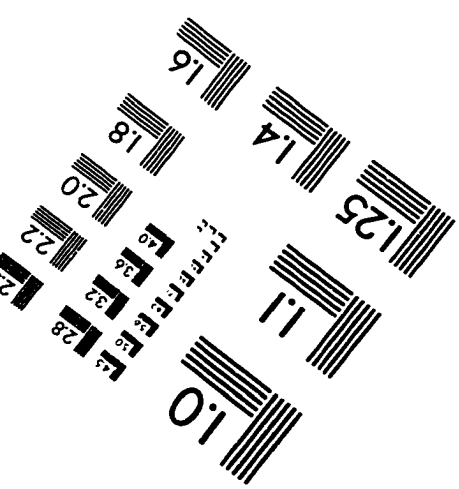
IMAGE EVALUATION TEST TARGET (QA-3)

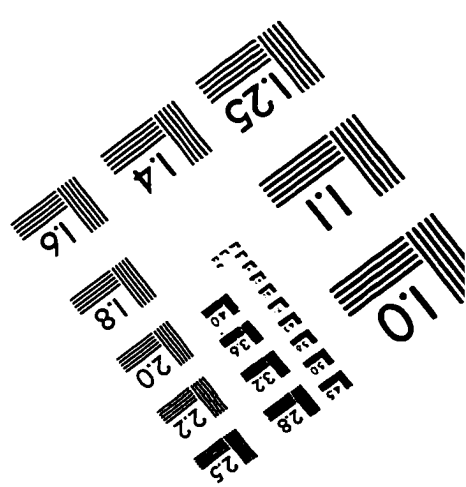












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