Self-concept, attitude toward school and sociometric status of mentally gifted third graders : a comparison
by Norman Glen Crane

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

Abstract:
The purpose of this study was to determine if identified mentally gifted third grade students had better self-concept, attitude toward school and sociometric status in a school district which had a pull-out program than in one which did not.

Gifted students in two Montana school districts were identified while in the second grade. One district had a pull-out program where, beginning in the third grade, gifted students spent 20 per cent of school time. In the other district students remained in self-contained classrooms all day. Two control groups equal in number to the mentally gifted groups were also compared.

Two instruments were used to derive test results.

At the end of the year, the How I See Myself Scale yielded the factors of physical appearance, interpersonal adequacy, autonomy and academic adequacy related to self-concept. The teacher-school factor related to attitude toward school.

Four areas of sociometric status were tested. Sub-questions dealt with scholastics, social acceptance, extra-curricular leadership and creative-scholastics. A sociometric questionnaire was administered at the beginning of the third grade year, and again near the end of the school year, to determine any change in status in tested groups.

Thirteen null hypotheses were tested in self-concept, attitude toward school and sociometric status. No significant difference was found for the factors of physical appearance, interpersonal adequacy, academic adequacy or attitude toward school. The autonomy factor null was rejected.

Each of the null hypotheses dealing with the four sociometric sub-questions was accepted for the beginning of the school year. Only one was accepted for the end of the year. The mentally gifted pull-out group decreased in the number of times chosen between fall and spring in all four areas. Only the social acceptance hypothesis was accepted after the spring testing.

It was concluded from this study, that very little difference existed among any of the four groups in any of the tested areas. However, a definite downward trend in the sociometric status of the mentally gifted pull-out group was in evidence after they had been in the program for one school year.

SELF-CONCEPT, ATTITUDE TOWARD SCHOOL AND SOCIOMETRIC STATUS OF MENTALLY GIFTED THIRD GRADERS: A COMPARISON

by

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A thesis submitted in partial fulfillment
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APPROVAL

of a thesis submitted by

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This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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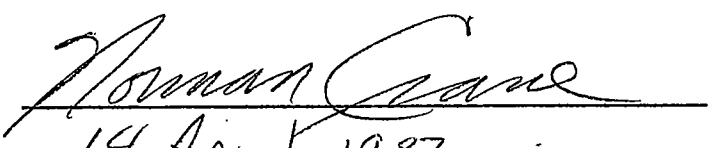
Signature 

Date 14 April 1987

This dissertation is dedicated to the memory of my father, Glen Dale Crane, who died during the course of my studies. He was a bright man who had only an elementary school education but who ensured that his children could attain the highest educational level they desired.

VITA

Norman Glen Crane was born March 7, 1940 in Bozeman, Montana, the son of the late Glen D. Crane and Anna A. Crane of Belgrade, Montana.

Upon graduation from Bozeman Senior High School in 1958, he enlisted in the United States Marine Corps. He has continued his military career in the Marine Reserves and currently holds the rank of Lieutenant Colonel.

He entered Montana State University, Bozeman upon release from the Marine Corps in 1961, earning a B. S. in Elementary Education in 1964.

He received a Master of Art in Education degree from California Lutheran College, Thousand Oaks, California in 1974 and a Doctor of Education degree from Montana State University in 1986.

He taught elementary school in Billings, Montana for one and one-half years and then became the principal of Irle School in Glasgow, Montana for one year. He has since taught kindergarten through eighth grade in the Ventura, California Unified School System.

He is married to the former Linda Lewis of Whittier, California. They have three children, T. Mitchell, 21, Lann L., 20 and Laralyn C., 17.

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Last, he wishes to thank his wife Linda for her help and encouragement in writing this paper. Her patience is exceeded only by her typing ability.

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ABSTRACT

The purpose of this study was to determine if identified mentally gifted third grade students had better self-concept, attitude toward school and sociometric status in a school district which had a pull-out program than in one which did not.

Gifted students in two Montana school districts were identified while in the second grade. One district had a pull-out program where, beginning in the third grade, gifted students spent 20 per cent of school time. In the other district students remained in self-contained classrooms all day. Two control groups equal in number to the mentally gifted groups were also compared.

Two instruments were used to derive test results. At the end of the year, the How I See Myself Scale yielded the factors of physical appearance, interpersonal adequacy, autonomy and academic adequacy related to self-concept. The teacher-school factor related to attitude toward school.

Four areas of sociometric status were tested. Sub-questions dealt with scholastics, social acceptance, extra-curricular leadership and creative-scholastics. A sociometric questionnaire was administered at the beginning of the third grade year, and again near the end of the school year, to determine any change in status in tested groups.

Thirteen null hypotheses were tested in self-concept, attitude toward school and sociometric status. No significant difference was found for the factors of physical appearance, interpersonal adequacy, academic adequacy or attitude toward school. The autonomy factor null was rejected.

Each of the null hypotheses dealing with the four sociometric sub-questions was accepted for the beginning of the school year. Only one was accepted for the end of the year. The mentally gifted pull-out group decreased in the number of times chosen between fall and spring in all four areas. Only the social acceptance hypothesis was accepted after the spring testing.

It was concluded from this study, that very little difference existed among any of the four groups in any of the tested areas. However, a definite downward trend in the sociometric status of the mentally gifted pull-out group was in evidence after they had been in the program for one school year.

CHAPTER ONE

INTRODUCTION

Gallagher (1975, p. 9) said,

> Americans are justly proud of their egalitarianism, of their demand for equal education for all, but we are equally proud of our goal of individualization to fit the program to the child's needs. We have moved far toward providing access to education for all, but we are less effective in meeting the differing needs and abilities of individual children.
>
> For those children at the extremes--the handicapped and the gifted--the commitment to individualization has been halting and incomplete. Failure to help the handicapped child reach his potential is a personal tragedy for him and for his family; failure to help the gifted child reach his potential is a societal tragedy, the extent of which is difficult to measure but which is surely great.

A summary of the findings of the Subcommittee on Education of the Committee on Labor and Public Welfare of the United States Senate as reported to the second session of the 92d Congress (1972, p. 3) included the following:

> A conservative estimate of the gifted and talented population ranges between 1.5 and 2.5 million children out of a total elementary and secondary school population of 51.6 million.
>
> Existing services to the gifted and talented do not reach large minority populations and serve only a small percentage of gifted children generally.
>
> Differentiated education for the gifted and talented is presently perceived as a very low priority at federal, state and most local levels of government and educational administration.
>
> Even when there is a legal or administrative basis for provision of services, funding priorities, crisis concerns, and lack of personnel cause programs for the gifted to be miniscule or theoretical.
>
> There is an enormous individual and social

> cost, when talent among the Nation's children and youth goes undiscovered and undeveloped. These students cannot ordinarily excel without assistance. Services for the gifted and talented can and do provide significant and measurable outcomes.

A number of authors, such as Epstein (1978), Gallagher (1975), and Whitmore (1980), have cited the neglect of mentally gifted children throughout the educational system of the United States. This neglect ranges from misunderstanding of the definition of mental giftedness to erroneous stereotyping of children in this category. It also appears that once the need for exceptional intelligence has been met, specially funded programs to train those in the upper levels of intelligence are discontinued or decreased and all children receive similar levels of instruction, regardless of mental capacity. We do not educate on a contingency basis, but wait for crisis conditions to exist, and then institute crash programs.

Whitmore (1980, p. 3) said, "Gifted children are the most educationally neglected and misunderstood group in American schools today." Continuing to paraphrase, Whitmore (1985, p. 6), tells us that the next decade offers unlimited opportunities for educators of the significant sub-population of American children known as mentally gifted.

The public often adheres to old and inaccurate stereotypes. Other inaccuracies are found in the definitions given by professional educators. Why these

inaccuracies persist in an era of extensive scientific research and the focus on individual rights is uncertain.

Whitmore (1980, p. 4) continued, "Public interest in gifted children has been associated with the nation's need to develop a larger supply of political and/or scientific leaders."

Generally, it appears that once we meet the needs of society, interest in the programs wanes. Reversion to the "melting pot" principle is sought and a negative sentiment toward "elitism" becomes strong. Children who fit into the gifted category in any educational system may be those who have been formally identified. They may have been recognized by a teacher or other professional as having the traits and characteristics of the gifted. Others, who possess those same traits and qualities but who, through lack of parental concern, lack of teacher motivation, lack of self-motivation or other more nebulous and less easily definable factors do not overtly display these characteristics and do not enter the special education system.

Strang (1951) concurred that many factors affected the neglect of the education of the mentally gifted. Factors affecting this neglect include the curriculum of the school, peer social pressure and lack of acceptance, and mythical concepts by professionals about the prognosis for success of these types of children. Many professionals feel these

children will "make it on their own", when in reality they may have an equally, if not more difficult time than their lesser academically qualified peers. The greatest limiting factor, however, lies in the relationships between teachers and their mentally gifted students.

The inclusion of mentally gifted students in elementary classrooms in public schools may cause teachers to feel uncomfortable, resulting in social isolation for the child.

Kirk (1972, p. 385) listed Wilson's (1958, p. 364) suggested six competencies for teachers of the mentally gifted:

> 1. The ability to foster in gifted pupils social responsibility, a desire to serve society, and a recognition of the worth of others.
> 2. The ability to create an environment in which the gifted participate efficiently in group discussions and in wholesome social relations.
> 3. The ability to develop a classroom atmosphere for gifted pupils that is conducive to good mental health.
> 4. The ability to teach the gifted to use the problem-solving approach to learning, to apply this to independent study and research, and to evalute their own progress.
> 5. A knowledge and understanding of the social and emotional problems that may be created for a gifted pupil by his accelerated mental development.
> 6. The ability to devlop a flexible, individualized enriching curriculum which is suited to the individual gifted pupil's needs and which avoids identical, stereotyped demands.

Teachers in self-contained classrooms may not know how to deal with the learning styles of mentally gifted children. The allowance of mentally gifted students to set unrealistic goals for themselves may have a deleterious

effect.

Whitmore (1980, p. 150) observed,

> Since the gifted child is thinking like an older child, he is very apt to set goals too high to be realistically attainable given other developmental levels. However, the greatest danger to the mental health of the gifted student is that adults too frequently do not recognize the child's tendency to set unrealistic goals or the natural drive for perfectionism, and as parents and teachers they also set unrealstic expectations. These expectations become psychological pressure on the child for intellectual achievement and mature behavior.

Whitmore (1980, p. 154-155) said, "The learning style of the gifted student is often incompatible with the instructional style of the teacher." She continues, "Gifted children want to learn by complex associative methods, rather than by rote drill. Intense conflict in the school environment is most apt to occur for the child who is highly creative."

Whitmore (1980, p. 155) stated, "Intense conflict in the school environment is apt to occur for the gifted child who is also highly creative. The principal conflict seems to center on the demands for conformity in the classroom." Children who do not fit into the established behavioral patterns of the teacher may not be recognized for their intellectual superiority.

Porter (1964, p. 132) also reported, "The child who conforms best to the teacher's standards of behavior is sometimes perceived as the most intelligent of his group; while the more aggressive, possibly brighter child who

refuses to do "more of the same problem" is labeled average and troublesome."

Whitmore (1980, p. 155) quoting Fine (1967) noted, "Gifted underachievers describe "bad" teachers as those who do not recognize students as individuals and who are sarcastic, overly critical, rigid, officious, unfair and unsympathetic."

An awareness of the need for the special education of the mentally gifted child is increasing. Gifted children trained as critical thinkers and problem solvers would be an obvious asset to our society, with its level of social, political and scientific problems. This recognition has helped increase the awareness for the need.

Now, after years of facing the negativism and conflict between the mentally gifted student and his teacher, and witnessing the apathy the public and school administrations have toward them, a revival of awareness of the social value of the gifted has been initiated. This awareness is based on the need for leadership in many areas. In times of need for the solution of problems of overpopulation, diminishing natural resources, hunger, inflation, crime and corruption, alternative energy sources and many others, we must look to the intellectually talented to help solve these problems.

In order to successfully educate the population of mentally gifted students who can best solve these problems, educators must include with their teaching of the curricular

areas, an attitudinally oriented approach. We must educate the classroom teacher to be aware of the uniqueness of his/her mentally gifted students and to instill in him/her the characteristics and attitudes necessary to derive the highest degree of productivity of which his/her mentally gifted students are capable.

Statement of the Problem

The purpose of this study was to determine if identified mentally gifted third grade students had better attitudes toward school and greater self-concept in school districts which had pull-out programs than in those which did not have pull-out programs. Additionally, it was to determine if the sociometric status of mentally gifted third graders was better in districts which had a pull-out program than that of those where there was no pull-out program.

Need for the Study

Many authorities such as Whitmore (1980), Gallagher (1975) and Maker (1975) have said that mentally gifted students have suffered educational neglect in the public schools during the past several years. This neglect was not in the form of formal education, per se, but in the form of special education to meet the individual needs of these students. There was a need for this study to determine if the education offered to the general school population was adequate for the needs of the mentally gifted student, or if pull-out programs for them were, in fact, beneficial.

Even with the emphasis on the individualization of instruction during the prior decade, these children were not receiving the type of education which they deserved and which was necessary for them to achieve their fullest potential.

Elementary school teachers have regarded gifted children suspiciously and have treated them with unwarranted disrespect. They have subjected them to ridicule as a result of misunderstanding of their nature and inability to cope with their needs.

With the revival of a public awareness of the value of gifted children there has been an increased demand for a proper and adequate education for them. It appeared as though a special setting with a teacher suited to meet the individual needs of these children was the most suitable method of helping them achieve their greatest potential.

The potential loss to society by not properly educating this coterie of children was of incalculable magnitude. There was potential harm to be suffered by the individual child as well.

The present study was designed to determine the levels of self-concept and attitude toward school of identified mentally gifted third graders in two school districts; one which had a pull-out program and one which did not. Additionally, it was designed to determine the sociometric status of these same students.

The criteria used for the identification of mentally gifted students in Bozeman, Montana were: initially, students were recommended for testing by the teacher(s) and/or parents. Upon recommendation, the children at the second grade level were given the Otis-Lennon Intelligence Test, a group intelligence test, upon which they had to attain an IQ score of at least 135. They were further given the Stanford Achievement Test. If students met minimal levels on the achievement test and had a minimum 135 IQ, their names were brought before a district selection committee comprised of local administrators, teachers and parents for final recommendation for acceptance into the program.

Generally, the minimum score on any section of the achievement test was the 98th percentile. However, students who had not achieved the minimum test scores could have been included into the program on the recommendation of their teachers or the committee.

Many other school districts have had programs for mentally gifted students. Information about these programs was gathered through phone calls to administrators in the various school districts. They included Miles City, Montana where the Weschler Intelligence Scale for Children-R test was used for determination of IQ, vice the Otis-Lennon Test in Bozeman. Mesa, Tempe and Scottsdale, Arizona each had mentally gifted programs using criteria similar to Bozeman.

The Arizona schools also used the WISC-R. Ventura, California had a Gifted and Talented Education program (GATE). The writer was a teacher in the program and talked to the coordinator of their program to confirm current data. Initially, children were given the Detroit Primary Intelligence Test. Having attained a minimum score on the Detroit, they were given the WISC-R and had to attain a minimum IQ of 131 on that test. They were further processed by a local screening committee for acceptance into the program. Aurora, Colorado employed the Slosson Intelligence Test along with the other criteria used in Bozeman. The major difference between Aurora and Bozeman was a time differential, Aurora pulling the mentally gifted student only 10 percent of their class time.

The students involved in the program in Bozeman spent 20 percent of their school time with an itinerant teacher while participating in the mentally gifted program of the district, and 80 percent of their time with a teacher in a self-contained classroom environment. Each of the other districts mentioned had a 20 percent pull-out program, with the exception of Aurora, Colorado.

Although differences existed in identification criteria of the named districts and the Bozeman, Montana District, the writer felt that the study could be generalizable to the mentally gifted third grade students in those districts and other districts in the United States which had similar

programs for mentally gifted students.

It was further expected that this study would provide information which teacher training institutions and state educational agencies could use to educate school districts in better methods of relating to the mentally gifted elementary school student, so that his/her greatest potential could be reached.

General Questions to be Asked

1. If third graders have been identified as being mentally gifted, and they participate in a pull-out program, is their level of self-concept greater than that of identified mentally gifted third graders not in a pull-out program?

2. If third graders have been identified as being mentally gifted, and they participate in a pull-out program, is their attitude toward school greater than that of mentally gifted third graders not in a pull-out program?

3. If third graders have been identified as mentally gifted, and they participate in a pull-out program, is their sociometric status greater than that of mentally gifted third graders not in a pull-out program?

4. If third graders have been identified as mentally gifted, and they participate in a pull-out program, is their level of self-concept greater than that of third graders not identified as mentally gifted, some of whom attend school in the district where the pull-out program exists, and some of

whom attend school where there is no pull-out program?

5. If third graders have been identified as being mentally gifted, and they participate in a pull-out program, is their attitude toward school greater than that of third graders not identified as mentally gifted, some of whom attend school in the district where the pull-out program exists, and some of whom attend school where there is no pull-out program?

6. If third graders have been identified as being mentally gifted, and they participate in a pull-out program, is their sociometric status greater than that of third graders not identified as mentally gifted, some of whom attend school in the district where the pull-out program exists, and some of whom attend school where there is no pull-out program?

7. Does the sociometric status of mentally gifted third graders increase more during the course of a school year, if their classmates know they participate in a pull-out program, than if they do not participate in a pull-out program?

General Procedure

This problem was approached by identifying mentally gifted students in two Montana school districts who were in the second grade of school in 1982 and testing these same identified students, during their third grade in school. Subsequently, two control groups, one from each district,

and equal in number to the number of mentally gifted students were randomly selected for testing. These students were not identified as mentally gifted. The control groups were used to insure that if differences in the mentally gifted groups were found, that they were attributable to the pull-out program and not environmental factors. The purposes of this testing were to determine differences in self-concept and attitude towards school. The four groups were also measured sociometrically in September, 1982, before the inception of the pull-out program, and again in May to compare the sociometric status of the groups. The students came from two districts in Montana.

The first district, in Bozeman, Montana, had a pull-out program for its mentally gifted students, whereby they spent two half-days per week with a special teacher in a central location, and the rest of their school time in a self-contained classroom.

The second district was in Belgrade, Montana. Mentally gifted students were identified using similar criteria to the Bozeman district, but spent their entire school day in a self-contained classroom.

Although differences existed, there were enough similarities in the districts to make valid comparisons. Belgrade is located thirteen miles from Bozeman and serves as a bedroom community for Bozeman. According to Jim Monger, former senior vice president of TAP Incorporated, an

economic research firm who did a population growth study on Belgrade in 1982, many breadwinners living in Belgrade earned their livelihood in Bozeman. Families in Belgrade attended social events, movies, churches and made use of the shopping facilities found in Bozeman. Administrators and teachers in both districts were primarily graduates of Montana schools. (Appendix B)

The researcher administered the How I See Myself Scale (Gordon, 1969) to both groups to determine whether there was a difference in self-concept and attitude toward school between mentally gifted third graders in a pull-out program and those not in a pull-out program. This test was administered during the third week in May. It was administered only once, at the end of the school year, since there was a need to determine a difference or lack of difference and none to determine a change. For comparison purposes, control groups from both districts, were administered the How I See Myself Scale at the same time.

A sociometric questionnaire was administered to the mentally gifted groups and the control groups in September, 1982 and again in May, 1983 to compare differences in the sociometric status of each group. The September questionnaire was administered before the Bozeman mentally gifted group began its pull-out program. The sociometric questionnaire was administered both at the beginning and at the end of the school year, in order to determine status

change.

Limitations

This study was limited to third graders in Bozeman and Belgrade, Montana who had been identified in the second grade as being mentally gifted. It included randomly selected control groups, equal in number to the mentally gifted groups, the members of which were not identified as mentally gifted.

Identification of mentally gifted students occurred while students were second graders. Subsequent testing for comparison took place in 1982-1983 when students were third graders. No research was done after May, 1983.

This study was limited to third graders and did not attempt to determine the effectiveness of pull-out programs at other grade levels. Neither did it attempt to assess the qualities and effectiveness of the teachers involved, or factors related to the academic curricula.

Districts in Bozeman and Belgrade, Montana were involved in this study. Differences in the approach of these districts to educating mentally gifted students existed. Primarily, the Bozeman district had a formal pull-out progam for its mentally gifted students and the Belgrade district did not.

The review of literature was limited to the library at Montana State University and the researcher's private library. Definitions for terms came from books in the

library at Ventura, California Community College.

Definition of Terms

Good (1973) listed the following definitions:

Mentally gifted (p. 261). Possessing high intellectual ability, with mental age well in advance of the norm, and consequently a high I.Q.

Self contained classroom (p. 105). A classroom in the form of school organization in which classes are composed of groups of children which remain in one location, with one teacher (or team of teachers), for all or nearly all instructional activities, to be distinguished from a departmentalized program.

Individualized instruction (p. 305). A type of teacher-learning in which the teacher gives consideration to the individual learner; . . .

Individual instruction (p. 305). The provision of instructional guidance and assistance to individual pupils in accord wth their needs.

Elementary school (p. 209). A school having a curriculum offering work in any combination of grades 1 to 8 or from the preprimary grades to grade 8.

Sociometric instruments (p. 543). Checklists, scales and tests used to study the psychological reactions of human beings in relation to others.

Achievement test (p. 594). A test designed to measure a person's knowledges, skills, understandings, etc., in a

given field taught in school, . . .

Self-concept (p. 524). The individual's perception of himself as a person, which includes his abilities, appearance, performance in his job and other phases of daily living.

Attitude (p. 49). The predisposition or tendency to react specifically towards an object, situation or value; usually accompanied by feeling and emotions; . . .

Dejnozka (1982, p. 277) stated this definition:

Itinerant teacher. A teacher specially trained to work with individual students during part(s) of the school day. The teaching service. . .most often involved in working with mainstreamed students, visually impaired, gifted and other exceptional children.

The following definition is the writer's own. Although no formal definition was found in the literature, this term is commonly used in educational environments.

Pull-out program. A program in a public school where children are removed from their regular, self-contained classroom environment to receive instruction designed to meet the child's special need, or to receive instruction in a specialized area.

Summary

The education of mentally gifted children in the United States has long suffered neglect. Interest in these children is now being shown, both by the general public and

by the professional education community.

Because of the renewed interest in these children, and because of their high value to society, it was necessary to determine whether pull-out programs were valuable in helping children achieve their greatest potential.

The purpose of this study was to determine whether pull-out programs for mentally gifted elementary school students were an aid to helping those students to greater self-concept and better attitudes toward school. It was also to determine the sociometric status of mentally gifted third graders.

The procedures used to make this determination included the following:

1. Mentally gifted students were identifed in two Montana school districts. One district had a pull-out program for mentally gifted students and the other did not. These students were second graders at the time of identification.

2. One control group was randomly selected from each district, equal in number to the mentally gifted groups, but not identified as mentally gifted.

3. Each of the four above named groups was administered a sociometric questionnaire at the beginning of the third grade year before the inception of the pull-out program, and again near the end of the school year. This questionnaire was used to determine if the sociometric

status of members of the four groups increased, decreased or remained unchanged during the course of the year, and to compare the differences among the four groups.

4. Each of the four above named groups was administered the How I See Myself Scale near the end of their third grade year. This scale was used to determine their self-concept in the areas of physical appearance, interpersonal adequacy, autonomy and academic adequacy. It was also used to determine their attitude toward school. The results were used to compare the differences among the four groups.

The study was limited to third graders in Bozeman, Montana and Belgrade, Montana. It made no attempt to determine the effectiveness of pull-out programs at other levels, or of the academic effectiveness of any program.

CHAPTER TWO

REVIEW OF LITERATURE

Giftedness Defined

Whitmore (1980, p. 8) says,

> The literature from about 1800 onward has contained occasional descriptions of child prodigies who were recognized because of their exceptional accomplishments at an early age. Reports, usually provided by parents, were verified by public demonstrations of the child's impressive abilities--performances that may have appeared to be something like circus "freak" shows.
>
> "It seems that these children frequently belonged to educator parents who were competent drill masters and enjoyed writing detailed accounts of the precocious behavior", said Hildreth (1966) as quoted by Whitmore (1980, p.8).

Whitmore (1980, p. 8) cited a few examples of these types of behaviors, as described by Terman (1925), Hollingworth (1942), and Hildreth (1966):

> At age 14 months the child knew all the stories in the New Testament (Christian Heineken).
>
> Read fluently by age four; at age 7 years 10 months he gave a public demonstration of his ability to read in Italian, French, Greek and Latin. At age 9 he matriculated at the University of Leipsic, received his doctorate of laws at 16 (Earl Witte).
>
> Composed her first poem (said in correct rhyme and meter) at age 2 years 9 months; wrote her first literary composition by age 5 (Terman's Verda).
>
> Composed minuets before the age of 4; composed sonatas at 5 and a symphony at 8 years of age (Mozart).

The definition of giftedness, as judged by the variety of terms used to describe it, is at best nebulous and at least elusive.

S. P. Marland, Jr. (March, 1972, p. 187) said,

> Of the 22 states which had within their education code, a term which could apply to the clinical entity known as the gifted child eight used terms such as "the gifted", "academically talented", "gifted", and "the gifted child" but did not further define them.

The narrative sketches of the precocious children related by Whitmore at the beginning of this chapter would probably be acceptable to most of the lay community as evidence of mental superiority. However, these were not all of the children about which the definition of giftedness was concerned.

A contemporary gifted/talented definition has been evolving for over a half century. Lewis Terman started it all with his longitudinal study of the intellectually able in the 1920's. Through his studies of the IQ, Terman corrected the myth that bright children are peculiar and abnormal. He set the stage for recognizing the characteristics of the gifted/talented and their development through life and ways of identifying them. He took a giant step into an era when youth would be accepted for what they were and allowed to develop their gifts without fear of ridicule.

Witty (1951, p. 10) proposed a landmark definition of giftedness: "Any child whose performance in a valuable line of human activity is consistently or repeatedly remarkable is gifted."

Extensive research on giftedness and creativity was

conducted during the 1950's. Studies included E. Paul Torrance's Minnesota Studies of Creative Thinking; J. P. Guilford's Structure of Intellect Model and A. Harry Passow's interpretation of the research and its implications for education.

Subsequently, five state education departments took their first steps toward special education for the gifted: California's Mentally Gifted Minors Program (MGM), Georgia's Governor's School, Illinois' Demonstration Centers for the Education of the Gifted, Connecticut's Model for the Education of the Gifted, and Ohio's Cleveland Major Works Program.

But as the Sputnik fervor ebbed, provisions for gifted/talented programs had not yet entered the mainstream of education. Programs dissolved as funds were withdrawn and attention was shifted to minorities, culturally deprived children, mentally and physically handicapped and other special interest education groups.

Then in 1964 and again in 1974, new interest was established in programs for the gifted/talented children in the United States. In 1964 President Johnson established the Presidential Scholar's Program which established the fact that gifted and talented children existed at all socio-economic levels and within all ethnic boundaries. In 1974 Congress provided special funding to begin in 1976 with awards to state and local agencies for gifted/talented

education models and nationally based leadership and teacher-training programs. Writers such as Whitmore (1980) and Maker (1975) gave evidence that was favorable toward establishment and maintenance of special programs for the mentally gifted student.

Kirk (1972 p. 106) informed that in spite of the efforts of some individuals who advocated special provisions for the gifted over and above the regular school programs, until recently these programs had not received wide public support. This was true in some school systems which initiated special classes or special programs for the gifted. The rationale of those who opposed special education for the gifted was that the secondary schools were already offering diversified curricula--commercial, vocational and trade courses, and other less academic, as well as college preparatory curricula. This multiple-track plan was believed to be the most suitable for enriching the programs for brighter children. Furthermore, colleges and universities were originally organized for the superior students; hence it could be argued that the public has been providing extended education for those of superior intellect. The argument that American society had supplied colleges and universities with the most academically able did not take into consideration that some superior students were economically unable to attend college.

Some school system's refusal to implement programs for

the mentally gifted was caused by the resistance to change.

Rosenblum (1981 p.1) stated,

> Declining enrollments, rapid changes in the existing technology and knowledge about teaching and learning process, a continual expansion of the role of the school into new areas, and changes in the prevailing cultural preferences of both local communities and the larger society continually impel schools to innovate.
>
> Yet, although these pressures create a climate which favors the introduction of planned programs of change, many, if not most of the efforts of schools at planned change fail to achieve either their stated or implicit goals. One prominent explanation for the persistent finding of failure is the poor understanding among school personnel and policy makers of the organizational properities and processes that may have a significant impact upon a school's ability to achieve the designed outcomes of such change programs.

However, even with these reasons for not establishing mentally gifted programs, new legislation had been introduced which could provide as much as $50 million for 1980-83, for such programs. Panwith (1978, p. 1-5).

So, beginning with Terman's interest in the gifted in the 1920's, following the ebb and flow of interest through the subsequent years, what has become the definition of a child who is qualified to participate in such programs?

Gallagher (1975, p. 10) related, "Often justifiably impatient with esoteric definitions, the teacher and others in our society fail to recognize that the definition of giftedness was culture-bound." The definition's dependence has become directly related to the society in which the individual lives.

Gallagher (1975, p. 10) quoted Flanagan, Dailey, Shaycroft, Gorham, Orr and Goldberg (1962, p. 19) as having some pertinent things to say about talent and its definition in past eras:

> The definition of talent in a primitive tribe is likely to be quite simple. Where the tribe depends primarily on hunting wild game for survival, the definition of talent will focus on the ability to become an outstanding hunter. To the warring tribe, the ability to carry battle to the enemy is most prized.
>
> Even nations which produced men whose brilliant insights and ideas are still recognized today had a limited view of man's talents. The Greeks honored the orator and the artist--but failed to appreciate the inventor. Rome cherished the soldier and the administrator--but failed to recognize the many other talents of either its citizens or its slaves.
>
> What is our present concept of talent and how has it developed? It is not surprising that a complex society such as ours has a complex view of talents.

There were many different versions of a definition of gifted children in our society. There was an obvious concern with the variety of dimensions of giftedness. The obvious difficulty in defining giftedness has created an equally obvious difficulty in deciding whom to choose for these special programs.

The prime symbol system for our culture is language, and through this system we find the predominence of measures of mental ability. These tests are commonly called IQ tests and are a ratio of mental age to life age which yields an index that is referred to as an intelligence quotient. For example,

$$IQ = \frac{\text{mental age}}{\text{life age}} = \frac{12}{8} \times 100 = 150.$$

Gallagher (1975, p. 12) stated,

> We see intuitively that an IQ score of 150, such as that obtained here is "good". Extensive experience with the distribution of IQ scores has yielded consistent curves such as shown in Figure 1. The Wechsler Scales (Wechsler Intelligence Scale for Children--WISC--and the Wechsler Adult Intelligence Scale--WAIS) both have a mean of 100 and a standard deviation of 15. The 1960 revision of the Stanford-Binet test uses standard scores that have a mean of 100 and a standard deviation of 16. For all practical purposes this one-point difference is of no significance; hence one can also interpret Stanford Binet IQ's by referring to the WISC and WAIS scale in the figure.

Gallagher (1975, p. 13) stated,

> The IQ score actually yields two different kinds of measures, both of importance to educators. First it gives some indication of the current mental level of the child in comparison with his own age group and second, it makes a prediction as to the rate of the child's mental growth in the future . Although IQ tests clearly do not measure all of what we consider important in discussions of intelligence, they do measure much of what is necessary to current academic success.

In terms of IQ, giftedness may be defined at several different levels. The National Association of Secondary School Principals identified the ranges as follows:

1. Mildly gifted (116-128 IQ)
2. Moderately gifted (129-141 IQ)
3. Highly gifted 142+ IQ)

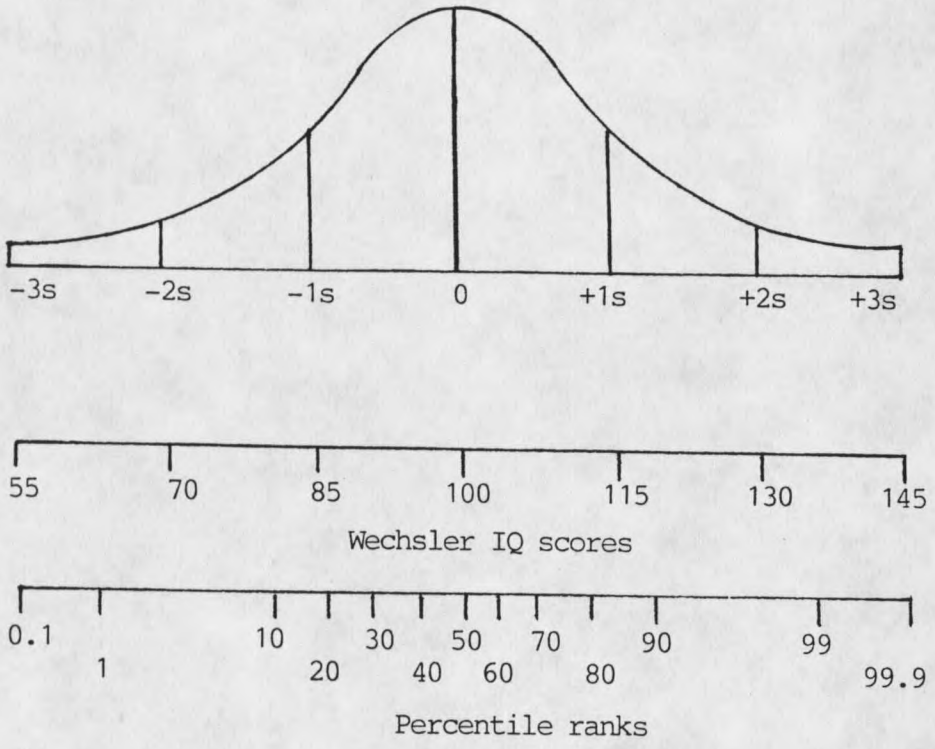

Figure 1. Relationships Between Wechsler Scores and Percentile Ranks. Gallagher (1975, p. 12). (Adapted from R. Biehler. Psychology of Applied Teaching. Boston: Houghton Mifflin, 1971, p. 418.)

As has been indicated, defining giftedness has many facets, only one of which is through use of IQ scores. Other aspects of giftedness are less easy to measure.

The literature reflects continuous efforts to construct a definition of giftedness that will gain more wide-spread acceptance. Whitmore (1980, p. 61), stated,

> There is no basic agreement on the definition of giftedness, but definite common denominators exist in all the definitions offered. Superior abilities related to cognitive processing--for example, comprehending, organizing, retaining, transferring, utilizing information in problem solving--are the basis of intellectual giftedness. These cognitive abilities contribute to the individual's exceptional ability to perceive relationships between ideas or events, to gain influence over the environment, and to become an independent critical thinker and a leader. "Gifted children" generally refers to those possessing exceptional potential for academic success and productive intellectual pursuits. Simply, one may define intellectual giftedness as exceptional potential for learning and a capacity to assimilate, manipulate and utilize abstract concepts and factual information.

Presently, definitions of giftedness are used synonymously with those of talent. Recognition is now being given those possessing special attributes which enable them to succeed physically, in the visual and performing arts, socially, mechanically and as leaders. Children who fall into these categories also need to be dealt with in special fashion.

Definitions of giftedness are determined by the methods of identification employed and vice versa. How a researcher or school system defines giftedness governs the content of

the identification tools to be employed.

For the purposes of this paper, the following definition of giftedness was used. The United States Office of Education in Richert (1978, p. 3) defined gifted and talented children as

> These are children who require differentiated educational programs and services beyond those normally provided by the regular school program in order to realize their contribution to self and society.
>
> Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas:
>
> 1. General intellectual ability
> 2. Specific academic aptitude
> 3. Creative or productive thinking
> 4. Leadership ability
> 5. Visual and performing arts
> 6. Psychomotor ability.

Characteristics of the Gifted

The general population has stereotypically characterized the traits of the gifted for many years. Serious efforts at scientific evaluation were begun in England.

Whitmore (1980, p. 9) stated,

> Sir Francis Galton, renowned English scientist, began the movement toward objective observation and measurement of human traits, and he devised statistical methods for summarizing the data. He was the first to produce a comprehensive description of gifted individuals and to supply information about the origins and development of genius.
>
> Galton's concept of genius was "great natural ability, nothing more, nothing less than a very extreme degree in a combination of traits--intellectual capacity, zeal and the power of working--that are shared by all humans to a varying degree." In America Terman's work supported Galton's

> findings as his systematic study of young geniuses exploded the popular myth of the intellectually gifted child as a queer, physically weak little prodigy who became neurotic and was apt to burn out quickly. His work also discredited the accompanying notion that the gifted child could excel only in certain kinds of mental performance and lacked general ability; that giftedness furthermore was accompanied by illness, social failure or some other compensatory deficiency.

Paraphrasing Gallagher's (1975, p. 41) discussion of Terman's group, he said, "The evidence of the past is that the gifted and talented have greater emotional stability than the balance of the comparable population, and that they maintain this stability over time." Kirk (1972, p. 57) said, "Terman concluded that the superior emotional adjustment seen in childhood was maintained in adulthood."

Karamessinis (1980, p. 11-12), said Faunce (1966) compared the academic persistence of gifted women who did or did not complete college. Of 1249 such subjects, 64% graduated. Those who did graduate tested as insightful, integrated, tension free, and vocationally oriented when they were freshmen.

Karamessinis (1980, p. 11-12), also quoted Schauer (1975) in a study of 125 eleven year olds at Kent State University. He determined that gifted children had a higher self-esteem than children in regular classes. Karamessinis (1980, p. 11-12) said that an earlier study found no such evidence.

Gallagher (1975, p. 34) summarizing the findings of Terman and Ogden (1951, p. 23-24) stated:

> 1. The average member of our group is a slightly better physical specimen than the average child. . .
>
> 2. For the fields of subject matter covered in our tests, the superiority of gifted over unselected children was greater in reading, language usage, arithmetical reasoning, science, literature and the arts. In arithmetical computation, spelling and factual information about history and civics, the superiority of the gifted child was somewhat less marked.
>
> 3. The interests of gifted children are many-sided and spontaneous, they learn to read easily and read more and better books than the average child. At the same time they make numerous collections, cultivate many kinds of hobbies, and acquire far more knowledge of plays and games than the average child. .
>
> 4. As compared with unselected children, they are less inclined to boast or to overstate their knowledge; they are more trustworthy when under temptation to cheat; their character preferences and social attitudes are more wholesome, and they score higher in a test of emotional stability. . .
>
> 5. The deviation of the gifted subjects from the generality is in the upward direction for nearly all traits. There is no law of compensation whereby the intellectual superiority of the gifted tends to be offset by inferiorities along non-intellectual lines.

Gallagher (1975, p. 39) said, "There is little or no question about the general social status of high IQ elementary school children. It is high." Gallagher (1975, p. 39) listed quotes from a large group of investigations (Grace and Booth, 1958; Grupe, 1961; Johnson and Kirk, 1950; and Miller, 1956):

> 1. The social status of gifted children seems to show a relative decrease at the secondary level.
>
> 2. Gifted children are able to identify correctly the social status of others and themselves better than the average.
>
> 3. Gifted children tend to choose each other for friends when they are removed from the classroom for a period of time each day.

4. Gifted children lose some general social acceptance when removed from the classroom for a period of time each day.

5. Acceleration at the elementary level does not seriously affect their social adjustment.

6. Gifted children seem to serve as an ego-ideal to the average child, who chooses him even though he sees differences between himself and the gifted youngster.

High social acceptance may be equated with good personal adjustment. Terman's group seemed well adjusted in childhood and also showed below-average incidence of suicide and mental illness in later life.

One personalized factor which was found to relate to high ability was that of independence. Lucito (1964, p. 5-13) compared 55 bright and 51 dull sixth grade children on a task that measured conformity to group judgment. The task was to identify which of three lines was longest. The children, placed in groups of six, had already proven their ability to identify the lengths of lines. However, when given false information about the choices of other children, the dull children had a tendency to conform to the opinion of the group while the brighter children did not. None of the dull children qualified for the most independent category, as defined by Lucito, while 29% of the bright children fell into this category.

Another characteristic of the gifted which was most overlooked and influential of those traits distinctly associated with individuals of superior intelligence was

perfectionism. Many gifted children exhibited this trait.

Whitmore (1980, p. 146) stated,

> This characteristic has been identified as a strong drive to achieve the results in striving students who are content only with A grades and top test scores. This motivating force seems to be a desire to prove to the world they are adequate and worthy, or a desire to remain "on top" in a competitive society.

Whitmore (1980, p. 146) reported that Strang (1951) also implied the drive for perfectionism in her discussion of the feelings of inferiority and inadequacy frequently expressed by the gifted. Haggard (1957) as reported by Whitmore (1980, p. 146) stated that gifted students became tense, anxious, guilty or rebellious as an ingenious means of self-defense and of frustrating and embarrassing those who placed primary emphasis on intellectual achievement.

It has become apparent that the stereotypically described gifted child, wearing thick glasses, reading a book and caressing a handkerchief to alleviate the consequences of persistent illness are not true. The physical characteristics of the gifted child are equal to those of other intellectual groupings. Other characteristics of great concern to educators would be those which fall into the affective domain. These characteristics include interpersonal adequacy, autonomy, academic adequacy, attitude toward school and social acceptance. They are the major topics of this paper and will be discussed and

analyzed in chapters four and five.

Identification of Giftedness

Gallagher (1975, p. 17), uses S. P. Marland's (1972, p. 261) delineation of the major identification procedures used for gifted children in Illinois.

It is natural to assume that identification of the gifted evolves from the definition of giftedness. However, by classifying giftedness as intellectual superiority, we rule out tests of physical fitness as appropriate identification measures.

Table 1: Major Identification Procedures

Major Identification Procedures	Percent Using	Percent Recommending
Teacher observation and nomination	93	75
Group achievement tests	87	74
Group intelligence tests	87	65
Previously demonstrated accomplishments	56	78
Individual IQ test scores	23	90
Scores on tests of creativity	14	74

Source: S.P. Marland, Education of the Gifted and Talented. Washington, D. C.: U. S. Office of Education, (1972, p. 261).

If we take one of the more popular general definitions of giftedness as stated by Gallagher (1964, p. 5): "Consistent excellence in any field of human behavior"; we can see that areas other than academic excellence or

intellectual superiority must be considered.

Although teacher nomination has been the most frequently used device for identification of the gifted, a more preferred method employed the individual achievement test and previously demonstrated accomplishments. Teachers will often overlook gifted students who will be identified by testing and conversely will overrate dutiful, hard-working children.

Gallagher (1966, p. 11) reported:

> The teacher is likely to miss gifted children who are underachievers, motivational problems and belligerant or apathetic toward the school program. Most authorities would agree that teachers opinions definitely need supplementing with more objective rating methods.

Both early and current studies have shown that we can identify these children at an early age, quite apart from their tendency to emerge on their own. Attempts to identify gifted children through tests at the kindergarten level have been successful when careful preliminary search and screening have been utilized.

Teacher nomination and group tests have been shown to have about the same level of accuracy in identification procedures. Both fail to identify large numbers of mentally gifted students. Half of the number of mentally gifted students remain unidentified with the use of group tests alone. It is unsafe to assume that teachers will identify even the highly gifted. According to one study, 25 percent

of the most highly gifted were missed.

The National School Public Relations Association (in Epstein, 1979, p.45) reported, "There are perhaps only two generally accepted statements about identification: start early, and use many methods."

They went on to say, "The use of multiple methods of identification has become a logical outgrowth of the recognition that giftedness had many facets and there were, in turn, many aspects to each of these facets." Gifted education specialists such as Whitmore (1980) and Gallagher (1975) recommended using as many of these identification procedures as possible:

1. Teacher nominations. Because teachers on their own tend to identify fewer than half of the gifted students, Renzulli and others have developed "Scales for Rating the Behavioral Characteristics of Superior Students" as an aid in guiding teacher judgment.

2. Tests. Group tests may be used as initial screening to select children to take individual tests, which are more expensive to administer, but also more reliable. There are IQ tests which measure several kinds of intellectual abilities--primary mental abilities, differential aptitude tests, multiple aptitude tests. A number of non-verbal, culture free IQ tests have been recently developed.

3. Parent nominations. These tend to be fairly

reliable, especially in early years.

4. Self nominations. Based primarily on a child's auto-biographical data and interest inventories.

5. Peer nominations. Based on sociograms.

6. Auditions. Used primarily for psychomotor skills and performing arts abilities. Examinations of portfolios will show the student's original work in the visual and performing arts.

7. Evaluation. Data from all sources, based on flexibility about cut-off points is the overriding method.

Finally, in Epstein (1979, p. 46) Joyce Runyon, Florida state consultant on the gifted recommended the following procedure be followed in identifying the gifted:

1. Nominations--from guidance counselors, specialists, community professionals, classroom teachers, principals, administrators, parents and self.
2. Screening--based on weighted checklists.
3. Descriptive case study
   a. academic history
   b. testing--cognitive: convergent thinking by achievement and IQ tests, divergent thinking by creativity and intellectual maturity tests; affective: convergent and divergent
   c. interests, observations, social-emotional adjustment appraisals
   d. personality assessment--interviews
4. Placement--based on evaluation of data by committee of teachers, psychologists, administrators.

Identification of the gifted, in some cases may be difficult. Given the several means available, those

children with special qualites can be assessed and placed in appropriate programs or be given instruction suitable for their needs.

Characteristics of Effective Teachers of Mentally Gifted

Although this research does not deal directly with the relationships between classroom and itinerant teachers and their mentally gifted students, these relationships have covert and overt bearing on the outcomes of the research. The writer felt, therefore, that a review of the literature pertaining to these relationships was necessary to provide background knowledge.

Nicely (1980, p. 12) reported a trend in the mentally gifted student/teacher relationship. It appeared that gifted students were often subjected to ridicule and embarrassment simply because they created an inconvenience by being drawn from the regular classroom. As a result, another needless hurdle had been placed in the path to the development of their own capabilities and talent.

He went on to say that research indicated that there were as many teachers who felt that enrichment programs made their jobs more difficult as there were teachers who felt that their jobs become easier as a result.

In a chi square analysis by Guilford, he determined at the .05 level, that there was no significant difference between the attitudes of two groups of teachers. In the age group 21-29 (chosen because they completed baccalaureate

programs and began post-graduate programs when much emphasis was being placed on gifted education) and those 30 and older had similar feelings regarding drawing children from regular classroom settings for regular periodic placement in gifted enrichment programs.

Gallagher (1975, p. 225) stated,

> There appear to be many misconceptions about the proper role of the teacher in providing gifted students the freedom to think broadly and to search for new ideas with a sense of freedom and exploration. To some the teacher's role should consist of an ability to nimbly step out, with a minimum of teacher interaction. But such a laissez-faire approach does not fit into our knowledge of classroom interaction. If the gifted child could learn on his own, there would be no need for the teacher.
>
> Teachers should encourage children to create expressive patterns of their own and to have ample opportunity to explore and become acquainted with each potential channel and mode of expression so that the one best suited for them may be more effectively utilized.

A reading of a list of desirable characteristics of teachers of gifted students in Gallagher (1975, p. 312) leads one to believe that few teachers could meet all of these qualifications. They include:

Good health and physical superiority
Versatility of interests
Creativeness and originality
Unusual proficiency in teaching subjects
Participating member of the community
Clear and consistent philosophy of education
Knowledge of theories of learning
Excellent sense of humor
Abundant physical energy.

A study using student opinions to choose successful teachers of the gifted revealed the following summary of

traits of 30 such teachers. A paraphrase of Bishop (1968, p. 317-325) stated,

> The successful teachers were found to be mature, experienced and superior intellectually. It is, in fact, hard to believe that a teacher of average intellectual ability could present the kind of content and pedagogical program necessary for this type of clientele.

Bishop (1968, p. 317-325) continued, successful teachers were more interested in literature, the arts and culture, had high personal achievement needs and were seeking their own intellectual growth through teaching. They were more student-centered, stimulating in the classroom, and not surprisingly, were supportive of special education programs for the gifted.

Gallagher (1975, p. 313) reported other characteristics as stated by Bruch and Torrance (1972, p. 72):

1. Honesty--able to admit mistakes rather than bluffing as infallible experts.
2. Not strict--fairly firm, but tough disciplinary methods and quiet classrooms are rejected.
3. Trusting--pupils must realize that teachers have the confidence in them to act responsibly.

The National School Public Relations Association (1979) reiterated the idea of trust and also indicated that a teacher must be able to encourage the development of creative and critical thinking; to develop as many different kinds of ideas about the solution of a problem as possible at the outset, regardless of how bizarre they may seem.

Along with the qualities previously mentioned we should

also include that the teacher must not be a hostile person. It has been maintained that in our society there is a widespread dislike for gifted and creative children. Nietzsche's concept of resentment involved a partly unconscious tendency to punish ingenuity and joyous excitement in able children.

Teachers of the gifted must be free of the lock-step and piece-by-piece approach. With many teachers using these methods, a teacher of the mentally gifted must be able to withstand criticism of a more liberal approach.

Maker (1982, p. 134) said:

> In addition, the special characteristics of the students to be taught necessitate consideration of other traits. For example, teachers of the intellectually gifted or academically talented must have a high degree of intelligence and self-confidence. Teachers of the creatively gifted should have imaginative ideas, a respect for the potentialities of the individual, a high regard for the teacher's responsibility to the child and the group's responsibility to the child, and a belief in the importance of enhancing pupils' self-images.

Intellectual superiority may not be a requisite, but certainly a teacher of the mentally gifted must be able to structure ideas, raise stimulating questions and give leadership to curiosity. Unless professionals with expertise provide appropriate guidance to classroom teachers, gifted children may become even more neglected than in the past. Teachers--gifted or not--seldom have been prepared to teach gifted children appropriately and with sensitive understanding of their needs.

Summary

Because of the many aspects to consider and because so many have different views on what constitutes giftedness, no one definition has gained full acceptance.

The most widely accepted definition of a gifted child is one who has scored in the upper two or three percent of IQ test scores. A more meaningful definition in the context of today's society will include a consideration of talent as well. The concern of this definition is the child who requires some sort of differentiated educational program beyond that required by the average student. Those who fit into this category will possess one or more of the attributes of intellect, academic aptitude, creative thinking, leadership skills, outstanding psychomotor ability or a talent for the visual or performing arts.

The previously accepted stereotype of the gifted child as one who was frail, sickly and neurotic has been dispelled. It is now accepted that these children are actually superior physically, are highly motivated in the proper environment and have a variety of interests. Gifted children are emotionally stable, well-accepted by peers and are generally independent. Because of a desire for perfectionism, they may foster within themselves, feelings of inferiority and inadequacy.

Gifted children may be identified through a variety of methods. Those most commonly used, teacher nomination and

group achievement test scores are the least desirable.

The best method for identification may be through the use of a multi-instrument process. This process would begin with a nomination by a person known to the individual, including the individual himself, screening, testing, and a case study.

The teacher characteristics which would best enable the most effective education of gifted children do not necessarily include a high level of intellect. They must, however, be original and creative, have a wide variety of interests and probably be energetic and in good physical condition.

Other desirable characteristics included a liking of the arts, literature and culture in general and high personal achievement. Above all, the successful teacher of the gifted has to like his students and respect them for what they are.

CHAPTER THREE

PROCEDURES

The purpose of this study was to determine if identified mentally gifted third grade students had a better attitude toward school and a greater self-concept in school districts which had pull-out programs than in those which did not have pull-out programs. Additionally, it was to determine if the sociometric status of mentally gifted third graders was better in districts which had a pull-out program than that of those where there was no pull-out program. Randomly selected control groups, equal in size to the mentally gifted groups, were included for comparison purposes.

The procedures used in this study are discussed under the following headings:

1. Population Description and Sampling Procedures
2. Description of Investigation Categories
3. Method of Collecting Data
4. Method of Organizing Data
5. Statistical Hypotheses
6. Analysis of Data
7. Precautions Taken for Accuracy
8. Summary

Population Description and Sampling Procedure

Of the several school districts within the state of Montana which had programs for mentally gifted students, Bozeman was selected for study for the following reasons:

1. Type of program offered.

2. Number of mentally gifted students participating in the mentally gifted program of the district.

3. Agreement by the district to participate in the study.

Belgrade was selected for the comparison population because it had no program for mentally gifted students, but had many demographic characteristics similar to Bozeman. Belgrade had a similar general population, similar teachers and served as a bedroom community for Bozeman. (Mr. Jim Monger, Senior Researcher, personal interview) (See Appendix B).

The population involved in this study included the third grade students in these districts, who by virtue of local testing and selection processes had been identified, as second graders, as being mentally gifted. They participated as third graders in pull-out programs for mentally gifted students or if no pull-out program existed, spent their entire school day in a self-contained classroom. It also included control groups from Belgrade and Bozeman not identified as being mentally gifted. The control groups received the same testing as the mentally gifted students

and the results were compared to the results of the testing of the mentally gifted students.

The students involved in the pull-out program in Bozeman spent 20 percent of their school time with an itinerant teacher while participating in the mentally gifted program of the district and 80 percent of their school time with a teacher in a self-contained classroom environment.

The second population studied was the third grade mentally gifted students in self-contained classrooms in Belgrade where there was no pull-out program. There were 22 identified and participating students in the mentally gifted program in Bozeman, drawn from 12 second grade classrooms. The Belgrade District had four second grade classrooms and provided 12 mentally gifted students. Control groups from each district were equal in size to the mentally gifted groups, but were not identified as mentally gifted.

Description of Investigation Categories

This study compared the self-concept of mentally gifted third graders involved in a pull-out program, with the self-concept of those who spent the entire school day in a self-contained classroom. Borg (1981) thought it sometimes important to investigate the effect of various educational practices on students' self concept. . ."

Additionally, the study compared the attitude toward school and the sociometric status of mentally gifted third graders involved in a pull-out program to that of mentally

gifted students not involved in such a program.

Two control groups, one randomly selected from each district, were matched to the mentally gifted groups. Each had the same number of subjects as the mentally gifted groups, and were included in the self-concept, attitude towards school and sociometric status aspect of this study to determine if differences occurred among the four groups.

The categories for investigation were:

1. Self-concept ratings of mentally gifted third graders involved in a pull-out program compared to those not involved in a pull-out program.

2. A comparison of the attitudes toward school of mentally gifted third graders involved in a pull-out program to those of mentally gifted third graders not involved in a pull-out program.

3. A comparison of the self-concept ratings of the control groups with the ratings of the mentally gifted groups.

4. A comparison of the attitudes toward school of the control groups with the attitudes toward school of the mentally gifted groups.

5. A comparison of the sociometric status of mentally gifted third graders involved in a pull-out program to those not involved in a pull-out program.

6. A comparison of the sociometric status of the control groups with the sociometric status of the mentally

gifted groups.

Methods of Collecting Data

The researcher used five instruments to gather data. The validity and reliability of the first four instruments were well documented. The validity and reliability data for the Otis-Lennon Test were found in the Manual for Administration, Otis-Lennon Mental Ability Test. Reliability and validity data for the How I See Myself Scale, developed by the late Dr. Ira A. Gordon, head of the Florida Research and Development Council, University of Florida were found in that administration manual. Data for the Stanford Achievement Test and the Metropolitan Readiness Test were found in each of the administration manuals for those tests.

The first instrument, the Otis-Lennon Mental Ability Test (Form J), was designed to "provide comprehensive, carefully articulated assessment of the general mental ability, or scholastic aptitude, of pupils in American schools." Otis (1967, p.4). This test was administered to the second graders in Bozeman, Montana School District #7 and Belgrade, Montana School District #44 during the first part of May, 1982.

The second and third instruments were the Stanford Achievement Test, Primary Level 2, Form A and the Metropolitan Achievement Test, Primary Level 2, Form JS and KS. The Stanford test is a "series of comprehensive

achievement tests developed to provide measurement and assessment of learning at different levels in the educational process." Madden (1973, p. 26). The test has been designed for students ranging from middle second to middle third grade. The Metropolitan was designed to serve the same purpose. It. . ."is a genuinely comprehensive system, one that merges measurement with diagnosis and prescription. . ." Prescott (1978, p. 2). Scores from the Stanford test in the areas of mathematics, science, word study skills and reading, along with the scores on the Otis-Lennon Test have been used by the Bozeman School District as the bases for selection and inclusion in the district's pull-out program for mentally gifted students. Scores from the Metropolitan, in the above named academic areas, along with the Otis-Lennon scores were used to determine which Belgrade students, had they lived in Bozeman, would have qualified for that district's mentally gifted program.

The fourth instrument was the How I See Myself Scale and was administered to the identified mentally gifted third grade students in Bozeman and Belgrade along with control groups in Bozeman and Belgrade during the last week in May, 1983. This test was used to determine differences in attitude toward school among the four groups of third graders.

The How I See Myself Scale was also used with both

groups of mentally gifted students and the two control groups to determine if there were differences in students' feelings about themselves if they were involved in a pull-out program, or if they were not.

Five factors relating to self-concept and feelings about school were derived from this test. They were: Teacher-School, Interpersonal Adequacy, Autonomy, Academic Adequacy and Physical Appearance. All were applicable to elementary school students.

For identification of the mentally gifted students, administration of the Otis-Lennon Test and the Stanford Achievement Test, Primary Level 2, Part A was done by the researcher and two other doctoral students from Montana State University. Administration of the Metropolitan Achievement Test was done by the second grade teachers in Belgrade. All testing of mentally gifted third graders and the control groups was done by Montana State University graduate students. All identified mentally gifted students had a measured IQ of 135 or greater, scored in the 98th percentile on a standardized achievement test, or had met one of the above criterion and had been recommended by one or more teachers. All were third graders at the time of testing.

Finally, a sociometric questionnaire was administered to the four groups to determine if differences existed among the four groups in the sociometric status sub-questions

relating to scholastics, social acceptance, extra-curricular leadership and creative-scholastics. Sax (1968, p. 263) stated that the study of group behavior is especially important in education where there is interaction among students. It was administered to the mentally gifted and control groups in Bozeman and Belgrade by a graduate student at Montana State University in September, 1982, prior to the beginning of the Bozeman pull-out program. Please note that at this time students had no knowledge of which of their peers would participate in a pull-out program.

The method of administration took the following form; each student in classrooms in Bozeman or Belgrade which had an identified mentally gifted student was asked to select from among his/her classmates, the peer with whom he/she would most like to participate in each of the four categories. The results were tabulated to determine which student(s) were selected the most in each category. Sax (1968, p. 263) says, "As currently used, sociometry simply requires investigators to ask subjects to nominate their peers for a given and specific activity." The results were tabulated to determine which students were perceived to be the most desirable for peer interaction in four categories.

The sociometric questionnaire was re-administered by a graduate student during the month of May, 1983 to all four groups. By the time re-administration of the questionnaire

was completed the pull-out group had had nearly nine months of participation in the program. The same questions were asked and the choices again tabulated. The data were compared to determine which students from which groups increased their sociometric standing over the course of the year and which decreased. These tabulations were made in each of the four categories and were displayed in tables showing the numbers of students in each of the four groups whose popularity increased or decreased and those whose popularity did not change. These same data were also displayed in percentage form. These tabulations were done for each of the four sub-questions.

The sociometric questionnaire was taken from the Montana State University Student Teaching Handbook, has been used extensively by student teachers from that institution, and is accepted by the faculty there. A summary of the use, implications and limitations of sociometric devices, as outlined by Sax (1968, p. 263) and Gronlund (1959, p. 152) may be found in Appendix A.

Method of Organizing Data

Data for this study has been organized in the following manner:

1. A table depicting the total number of second graders tested in Bozeman and Belgrade and the number qualified for the mentally gifted program.

2. Tables depicting the numbers in each group, the sum

of the scores and the mean for each group for each self-concept factor, attitude toward school and each sociometric status sub-question.

3. Tables depicting the results of the analysis of variance for each self-concept factor, attitude toward school and sociometric status sub-question.

4. Tables depicting the number and percentage of third graders increasing, decreasing and remaining unchanged in number of times chosen between the beginning and end of school for each sociometric sub-question.

5. A composite summary of the findings and comparisons in narrative form.

Statistical Hypotheses

In order to determine the differences in self-concept, attitude toward school and the sociometric status of mentally gifted third graders in a pull-out program and those not in a pull-out program, the following hypotheses were tested:

1 Ho: There is no difference in attitude toward school of four groups of third graders; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

2. Ho: There is no difference in their feelings about autonomy among four groups of third graders; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

3 Ho: There is no difference in their feelings about interpersonal adequacy among four groups of third graders; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

4. Ho: There is no difference in their feelings about academic adequacy among four groups of third graders; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

5. Ho: There is no difference in their feelings about physical appearance among four groups of third graders;

mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

6. Ho: There is no difference in the sociometric scholastic status of four groups of third graders at the beginning of the school year before the start of pull-out programs; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

7. Ho: There is no difference in the sociometric social acceptance status of four groups of third graders at the beginning of the school year before the start of pull-out programs; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

8. Ho: There is no difference in the sociometric extra-curricular leadership status of four groups of third graders at the beginning of the school year before the start

of pull-out programs; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identifed as mentally gifted who attend school where the district has no pull-out program.

9. Ho: There is no difference in the sociometric creative scholastic status of four groups of third graders at the beginning of the school year before the start of pull-out programs; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

10. Ho: There is no difference in the sociometric scholastic status of four groups of third graders near the end of the school year; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

11. Ho: There is no difference in the sociometric social acceptance status of four groups of third graders near the end of the school year; mentally gifted third graders in a

pull-out program, third graders not identifed as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

12. Ho: There is no difference in the sociometric extra-curricular leadership status of four groups of third graders near the end of the school year; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

13. Ho: There is no difference in the sociometric creative scholastic status of four groups of third graders near the end of the school year; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

Analysis of Data

Each of the proposed hypotheses in this research was tested using a one way analysis of variance to determine if

the difference between the two sample means was statistically significant. Isaac (1971, p. 140) indicated that this single composite test to compare all sample means simultaneously, and to tell us whether or not a statistically significant difference exists somewhere in the data, overcomes the disadvantages of pairing relevant combinations of two sample means and computing individual t-tests. Isaac (1971, p. 140) continues,

> Analysis of variance is the statistical tool which answers the question, Is the variability between groups large enough in comparison with the variability within groups to justify the inference that the means of the populations from which the groups were sampled were not all the same?

A comparison was made of each of the five factors of the How I See Myself Scale, which included Teacher-School, Physical Appearance, Interpersonal Adequacy, Autonomy and Academic Adequacy.

Although the samples in this study would not be considered normal in relation to the total population, an assumption of normality was made within the samples themselves. A similar comparison was made of the scholastic, social, extra-curricular leadership and creative scholastic factors of the sociometric questionnaire.

Precautions Taken for Accuracy

The Otis-Lennon Test and the Stanford Achievement Test, Level 2, given to the second graders in Bozeman and Belgrade were machine scored. Each of the classroom teachers checked

his or her students' answers to insure that all bubbles were completely filled in or erased, as appropriate. The Stanford Achievement Test, Level 3 and the How I See Myself Scale, given to third graders for comparison purposes were hand scored by the researcher. Responses to the sociometric questionnaire were tabulated by the researcher. Data derived from instrument results were initially calculated on a hand held calculator.

Summary

The purpose of this study was to determine if identified mentally gifted third grade students had greater self-concept and better attitude toward school in districts where there was a pull-out program than in districts where there was no pull-out program. Additionally, it was to determine the sociometric status of mentally gifted third graders.

The population used in this study was third graders in Bozeman and Belgrade, Montana who were identified as being qualified to participate in the mentally gifted pull-out program in Bozeman. Control groups were also drawn from the Belgrade and Bozeman third grade populations. These students were not identified as mentally gifted.

After initial testing in the second grade to identify mentally gifted students, those same students were tested near the end of the third grade to compare attitudes toward school, self-concept, and sociometric status. The control

groups were tested for comparison in each of the described areas.

Data has been organized in a series of tables which indicate numbers of students qualified for mentally gifted programs, test scores, means and a composite of all pertinent data.

Thirteen hypotheses were tested in this study to determine differences in self-concept, attitude toward school and sociometric status of mentally gifted third graders in a district where there is no mentally gifted program and one where there is.

A one way analysis of variance was used to compare the means of the test results of each of the two samples. As Isaac (1979, p. 140) stated, ". . .this test tells us whether or not a statistically significant difference exists somewhere in the data. . ."

CHAPTER FOUR

ANALYSIS OF DATA

Introduction

The purpose of this study was to determine if identified mentally gifted third grade students had better attitudes toward school and greater self-concept in school districts which had a pull-out program than those which did not have pull-out programs. Additionally, it was to determine if the sociometric status of mentally gifted third graders was better in districts which had a pull-out program than that of those where there was no pull-out program.

The data and analyses are presented in the following manner. First, the researcher discusses the population description. Second, the results of the thirteen null hypotheses tested at the .05 level of significance using the one way analysis of variance are presented. Third, the general questions to be answered are discussed.

Population and Description

The population of this study included the third graders in Bozeman and Belgrade, Montana Public School Districts, who, by virtue of local testing and selection processes had been identified, as second graders, as being mentally gifted and qualified to participate in a mentally gifted pull-out program. In the case of the Belgrade students, where no

pull-out program existed, their entire day was spent in a self-contained classroom. The population also included randomly selected control groups from both districts, equal to the sample of mentally gifted students from both districts. The inclusion of the control groups was to insure that if differences existed they could be attributed to the pull-out program and not to environmental factors.

A total of 68 students comprised the sample for this study. Twenty-two second graders were identified in Bozeman as qualified to participate in the pull-out program. This group included twelve males and ten females. The control group from Bozeman had the same total and also had twelve males and ten females. Twelve students in Belgrade were identified as mentally gifted and qualified to participate in a pull-out program. Of this number, four were males and eight were females. The control group from Belgrade included seven males and five females. Table 2 depicts the number of second graders tested and the number of students qualified for the mentally gifted pull-out program, by sex.

Table 2: Number of Students Tested and Qualified for Mentally Gifted Pull-out Program

	Total Second Graders Tested	Males Qualified	Females Qualified	Total Qualified
Bozeman	257	12	10	22
Belgrade	104	4	8	12
Total	361	16	18	34

Statistical Hypotheses

Thirteen statistical hypotheses were tested using the one-way analysis of variance at the .05 level of significance. The first through fifth of these were tested using the late Dr. Ira Gordon's How I See Myself Scale. The last eight were tested using the sociometric questionnaire from the Montana State University Student Teaching Handbook

Five factors could be determined from the How I See Myself Scale. They were: Physical Appearance, Interpersonal Adequacy, Autonomy, Academic Adequacy and Teacher-School. The first four factors were included under the broad category of self-concept and Teacher-School was related to attitude towards school.

Null Hypothesis One : There is no difference in the feelings about physical appearance of four groups of third graders; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program,

third graders not identified as mentally gifted who attend school where the district has no pull-out program.

The first of the four factors related to self-concept was physical appearance. Scores were derived from eight items in the scale. Students chose the numbers one through five for each item to indicate how they felt the item related to them. Therefore, the greatest score possible for this factor was forty and the least was eight. The items were:

Number 7. My hair is nice looking.

Number 11. I'm just the right weight.

Number 12. Girls like me.

Number 14. My face is very pretty (good looking).

Number 23. I like the way I look.

Number 31. My skin is nice.

Number 36. My clothes are nice.

Number 38. I like my build.

Table 3 indicates the mean score attained for Physical Appearance factor for each of the four groups. The literature indicates that the physical characteristics of the gifted are at least equal to those of other groups. The mentally gifted pull-out group, on the whole, perceived its appearance lower than each of the other groups.

Table 3: Mean Scores
Self-Concept (Physical Appearance Factor)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	550	638	321	348
Mean	25	29	26.75	29

Table 4: Analysis of Variance
Self-Concept (Physical Appearance Factor)

Source	df	SS	F	p
Between Groups	3	218.26	2.33	.05
Within Groups	64	2380.25		
Total	67	2598.51		

Critical F, Alpha =.05 (3,64df)=2.76

Table 4 indicates that, at the .05 level, insufficient evidence exists to reject the null on this factor. It should be pointed out that the mean scores for both control groups were higher than those of either mentally gifted group on this factor.

Null Hypothesis Two : There is no difference in the feelings about interpersonal adequacy of four groups of third graders: mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program,

mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull out program.

The second factor related to self-concept is labeled interpersonal adequacy. Since the factor consists of 17 items, the maximum score on the one through five scale is eighty-five and the minimum seventeen.

The items were:

Number 2. I stick with a job until I finish.

Number 4. I enjoy working on committees.

Number 6. I seldom worry.

Number 10. I'm good at athletics.

Number 12. The girls admire me.

Number 17. I like teachers.

Number 18. I'm usually at ease, relaxed.

Number 19. I like to try new things.

Number 20. I control my feelings very well.

Number 23. I like the way I look.

Number 24. I want the girls to admire me.

Number 30. I'm good at making things with my hands.

Number 32. School is very interesting.

Number 36. My clothes are very nice.

Number 38. I like my build.

Number 39. I'm a very good speaker.

Number 40. I learn new things easily.

Table 5: Mean Scores
Self-Concept (Interpersonal Adequacy Factor)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	1347	1374	725	768
Mean	61.23	62.45	60.42	64

Table 6: Analysis of Variance
Self-Concept (Interpersonal Adequacy Factor)

Source	df	SS	F	P
Between Groups	3	125.71	.49	.05
Within Groups	64	5518.23		
Total	67	5643.94		

Critical F, Alpha =.05 (3,64 df)=2.76

The means for the control groups exceeds the means for either mentally gifted group. Table 6 indicates that, at the .05 level, insufficient evidence exists to reject the null on the basis of this factor. From these data, the conclusion is that the relationship of mentally gifted students in pull-out or non pull-out programs does not significantly affect their feelings of interpersonal adequacy.

Null Hypothesis Three : There is no difference in feelings about autonomy of four groups of third graders:

mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

The third factor under the self-concept heading is autonomy. Autonomy may be described as being able to function by one's self, independent of the help of others. Gordon (1969) in his administration manual for the How I See Myself Scale indicated that this label may convey more than is warranted. Gordon (1969, p. 15) further stated, however, that, "The label was selected because one might infer that a youngster who scores high on this factor enjoys expressive activities and doing things by himself. He might be seen as less group oriented and more task oriented." There are nine items related to this factor the maximum score being forty-five and the minimum being nine. The items related to this factor are:

Number 3. I am a good artist.

Number 13. I am good at speaking.

Number 14. My face is pretty.

Number 15. I'm good at musical things.

Number 21. I do well in school.

Number 27. I write well.

Number 28. I enjoy individual projects.

Number 29. It is easy for me to organize my time.

Number 30. I am good at making things with my hands.

Table 7: Mean Scores
Self-Concept (Autonomy Factor)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	650	709	348	388
Mean	29.55	32.22	29	32.33

Table 8: Analysis of Variance
Self-Concept (Autonomy Factor)

Source	df	SS	F	P
Between Groups	3	146.53	3.62	.05
Within Groups	64	864.94		
Total	67	1011.47		

Critical F, Alpha =.05 (3,64 df)=2.76

As indicated by Table 8, sufficient evidence exists at the .05 level to reject the null on the basis of this factor. In this case also, the control means exceed the means for either of the mentally gifted groups.

Null Hypothesis Four : There is no difference in feelings about academic adequacy of four groups of third

graders: mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

Academic adequacy is the last factor related to self-concept. Six items related to this factor, ranging from a minimum score of six to a maximum score of thirty. The items were:

21. I do very well in school.

31. My skin is nice-looking.

33. Math is easy for me.

34. I am smarter than most of my classmates.

39. I am a good reader.

40. I learn new things easily.

The lowest score for the mentally gifted group from Bozeman, who know by virtue of their participation in the pull-out program, that they have high academic potential, was nineteen. The high score for this group was twenty-eight. The low score for the mentally gifted group not participating in a pull-out program was thirteen and the high was twenty-eight. No statistically significant difference was found for this factor among any of the four groups. However, this was the only factor under the self-concept heading where the mentally gifted pull-out

group mean exceeded the mean of the pull-out control group. Note that the mean of the non pull-out control exceeds the mean of the mentally gifted pull-out mean.

Table 9: Mean Scores
Self-Concept (Academic Adequacy Factor)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	513	485	240	283
Mean	23.32	22.04	20	23.58

Table 10: Analysis of Variance
Self-Concept (Academic Adequacy Factor)

Source	df	SS	F	P
Between Groups	3	107.17	2.43	.05
Within Groups	64	940.64		
Total	67	1047.81		

Critical F, Alpha =.05 (3,64 df)=2.76

Null Hypothesis Five : There is no difference in the attitude toward school of four groups of third graders; mentally gifted third graders in a pull-out program, third graders not identified as mentally gifted who attend school where the district has a pull-out program, mentally gifted

third graders not in a pull-out program, third graders not identified as mentally gifted who attend school where the district has no pull-out program.

One factor in the How I See Myself Scale is related to children's attitude towards school. This factor called Teacher-School has six items. The maximum score for the six items is thirty and the minimum is six. Scores ranged from ten to thirty. One person in each mentally gifted group scored ten. Five students scored thirty, two from the Bozeman mentally gifted group and one from each of the other three groups. Mean scores showed little difference among the groups. The highest mean was attained by the control group in Bozeman and the lowest by the mentally gifted group in Belgrade. The items related to this factor are:

8. Teachers like me.
16. I get along well with teachers.
17. I like teachers.
21. I do well in school.
32. School is very interesting.
37. I like school.

After having spent a school year in a pull-out program, the attitude of mentally gifted children toward school was little different than that of other children. Children not identified as mentally gifted had nearly the same feelings about school as did their mentally gifted counterparts.

Table 11: Mean Scores
Attitude Toward School (Teacher-School Factor)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	477	481	251	256
Mean	21.68	21.86	20.92	21.33

Table 12: Analysis of Variance
Attitude Toward School (Teacher-School Factor)

Source	df	SS	F	P
Between Groups	3	7.91	.084	.05
Within Groups	64	2015.96		
Total	67	2023.87		

Critical F, Alpha =.05 (3,64 df)=2.76

As indicated by Table 12, insufficient evidence exists to reject the null for the Teacher-School factor.

Null Hypotheses Six Through Thirteen : Null hypotheses six through thirteen stated there was no difference among any of the four groups in four areas of sociometric status. These hypotheses were tested at the beginning of the school year, before the pull-out program began, and before classmates had knowledge of their peers involvement in the program. They were also tested in the spring after mentally gifted students had spent nine months

in the pull-out program.

The four areas of sociometric status tested were:

1. scholastics
2. social acceptance
3. extra-curricular leadership
4. creative-scholastics

The following questions were asked of third graders, in order to determine the sociometric status of them and their peers:

1. If you were to choose a partner with whom to do school work, which of your classmates would you choose?

2. If you were having a party at your home, which of your classmates would you choose to come?

3. If you were choosing sides in a game, which of your classmates would you choose to be on your team?

4. If you wanted to work with someone to draw, paint or write a play which of your classmates would you choose?

The analysis of the findings is shown in Tables 13 through 32.

Table 13: Mean Scores
Sociometric Scholastic Sub Question (Before pull-out program began)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	28	23	9	13
Mean	1.27	1.05	.75	1.08

Table 14: Mean Scores
Sociometric Scholastic Sub Question (At end of school year)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	23	37	11	7
Mean	1.05	1.68	.92	.58

The literature indicates that mentally gifted children are never quite satisfied with their academic performance. Mentally gifted children who were pulled from regular classrooms to participate in a special program did not feel as good about their scholastic performance after a year's participation, as they did at the beginning of the year. Mentally gifted students in a non pull-out program experienced a slight increase in their feelings about their scholastic performance.

Table 15 shows the numbers and percents of children

increasing and decreasing on the sociometric scholastic sub question. The non pull-out control groups experienced the greatest decrease.

Table 15: Amount of Increase and Decrease Between the Beginning and End of the School Year in Number and Percent of Times That Students Were Chosen By Their Peers; Sociometric Scholastic Sub Question

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number increasing	6	11	4	2
Number decreasing	7	2	3	7
Number unchanged	9	9	5	3
Total	22	22	12	12
Percent increasing	27.2	50.0	33.3	16.6
Percent decreasing	31.8	9.0	25.0	58.3
Percent unchanged	40.9	40.9	41.6	25
Total	99.9	99.9	99.9	99.9

As can be noted in Table 15 the group of mentally gifted children in the pull-out program had an increase in the area of scholastics of only 27.2 percent. The decrease for the same group was 31.8 percent.

Table 16: Analysis of Variance
Sociometric Scholastic Sub Question (Before pull-out program began)

Source	df	SS	F	P
Between groups	3	2.14	.58	.05
Within groups	64	78.49		
Total	67	80.63		

Critical F, Alpha = .05 (3,64 df)= 2.76

As indicated by Table 16, insufficient evidence exists to reject the null for the scholastic sub question before the pull-out program began.

Table 17: Analysis of Variance
Sociometric Scholastic Sub Question (At end of school year)

Source	df	SS	F	P
Between groups	3	11.97	2.82	.05
Within groups	64	90.56		
Total	67	101.53		

Critical F, Alpha = .05 (3,67 df) =2.76

As the evidence indicates, the null is rejected. There is a significant difference in the groups at the end of the school year. The mean scores for the mentally gifted groups are relatively close (Mean=1.05 for the mentally gifted pull-out group, Mean=.92 for the mentally gifted non pull-out group). The major difference lies between the two control groups Mean=1.68 for the pull-out control, Mean=.58 for the non pull-out control).

The second question relating to sociometric status dealt with social acceptance. Tables 18-22 depict these results.

Table 18: Mean Scores
Sociometric Social Acceptance Sub Question
(Before pull-out program began)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	24	19	10	15
Mean	1.09	.86	.83	1.25

Table 19: Mean Scores
Sociometric Social Sub Question (At end of school year)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	21	27	11	4
Mean	.95	1.23	.92	.33

Table 20: Amount of Increase and Decrease Between the Beginning and End of the School Year in Number and Percent of Times That Students Were Chosen By Their Peers; Sociometric Social Acceptance Sub Question

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number increasing	5	9	3	1
Number decreasing	10	5	4	6
Number unchanged	7	8	5	5
Total	22	22	12	12
Percent increasing	22.7	40.9	25.0	8.3
Percent decreasing	45.4	22.7	33.3	50.0
Percent unchanged	31.8	36.3	41.6	41.6
Total	99.9	99.9	99.9	99.9

The greatest percentage of increase for this sub question, as shown by Table 20, was with the pull-out control group. The least increase was with the non pull-out control group, who also showed the greatest decline from before the pull-out program began to the end of the school year.

Table 21: Analysis of Variance
Sociometric Social Acceptance Sub Question (Before pull-out program began)

Source	df	SS	F	P
Between groups	3	1.67	.510	.05
Within groups	64	68.03		
Total	67	70.0		

Critical F, Alpha = .05 (3,64 df)=2.76

As indicated by Table 21, insufficient evidence exists to reject the null for the social acceptance sub question before the pull-out program began.

Table 22: Analysis of Variance
Sociometric Social Acceptance Sub Question
(At end of school year)

Source	df	SS	F	P
Between Groups	3	6.22	1.44	.05
Within Groups	64	92.41		
Total	67	98.63		

Critical F, Alpha = .05 (3,64 df)=2.76

As indicated by Table 22, insufficient evidence exists to reject the null for the social acceptance sub question at end of school year.

The third question relating to sociometric status dealt with extra-curricular leadership. Tables 23 through 27 depict the results.

Table 23: Mean Scores
Sociometric Extra-Curricular Leadership Sub Question
(Before pull-out program began)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	23	20	7	8
Mean	1.05	.91	.58	.67

Table 24: Mean Scores
Sociometric Extra-Curricular Sub Question
(At end of year)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	18	38	14	7
Mean	.82	1.73	1.17	.58

Table 25: Amount of Increase and Decrease Between the Beginning and End of the School Year in Number and Percent of Times That Students Were Chosen By Their Peers; Sociometric Extra-Curricular Leadership Sub Question

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number increasing	3	11	1	1
Number decreasing	7	3	4	5
Number unchanged	12	8	7	6
Total	22	22	12	12
Percent increasing	13.6	50.0	8.3	8.3
Percent decreasing	31.8	13.6	33.3	41.6
Percent unchanged	54.5	36.3	58.3	50.0
Total	99.9	99.9	99.9	99.9

The small percentage of increase for both mentally gifted groups should be noted here, along with a rather large increase for the pull-out control group.

Table 26: Analysis of Variance
Sociometric Extra-Curricular Leadership Sub Question
(Before pull-out program began)

Source	df	SS	F	P
Between groups	3	2.17	.74	.05
Within groups	64	62.36		
Total	67	64.53		

Critical F, Alpha = .05 (3,64 df)=2.76

Insufficient evidence exists to reject the null for the extra-curricular leadership sub question before the pull-out program began.

Table 27: Analysis of Variance
Sociometric Extra-Curricular Leadership Sub Question
(At end of school year)

Source	df	SS	F	P
Between groups	3	22.48	4.04	.05
Within groups	64	148.70		
Total	62	171.18		

Critical F, Alpha = .05 (3,64 df)=2.76

As the data indicates the calculated F exceeds the critical F for the extra-curricular sub question at the end of the school year, providing evidence to reject the null. Choices increased 50 percent for children in the pull-out control group for the extra-curricular leadership factor,

while the mentally gifted pull-out group increased 13.6 percent and each of the non pull-out groups increased 8.3 percent, accounting for the rejection of the null.

The fourth question relating to sociometric status dealt with creative scholastics. Tables 28 through 32 depict the results.

Table 28: Mean Scores
Sociometric Creative-Scholastics Sub Question
(Before pull-out program began)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	23	23	7	7
Mean	1.05	1.05	.58	.58

Table 29: Mean Scores
Sociometric Creative Scholastic Sub Question
(At end of year)

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number in group	22	22	12	12
Sum of X	21	40	14	5
Mean	.95	1.82	1.17	.42

Table 30: Amount of Increase and Decrease Between the Beginning and End of the School Year in Number and Percent of Times That Students Were Chosen By Their Peers; Sociometric Creative-Scholastic Sub Question

Group	Mentally Gifted Pull-Out	Pull-Out Control	Mentally Gifted Non Pull-Out	Non Pull-Out Control
Number increasing	6	11	6	2
Number decreasing	7	1	3	5
No change	9	10	3	5
Total	22	22	12	12
Percent increasing	27.2	50.0	50.0	16.6
Percent decreasing	31.8	4.5	25.0	41.6
No change	40.9	45.4	25.0	41.6
Total	99.9	99.9	99.9	99.9

The greatest increase and the least decrease, as shown by Table 30, lies with the pull-out control group. Once again, the mentally gifted pull-out group showed more decrease than increase.

Table 31: Analysis of Variance
Sociometric Creative-Scholastic Sub Question
(Before pull-out program began)

Source	df	SS	F	P
Between groups	3	3.32	1.17	.05
Within groups	64	59.74		
Total	67	63.06		

Critical F, Alpha = .05 (3,64 df)=2.76

Insufficient evidence exits to reject the null for the creative-scholastic sub question before the pull-out program began.

Table 32: Analysis of Variance
Sociometric Creative-Scholastic Sub Question
(At end of year)

Source	df	SS	F	P
Between groups	3	17.07	4.10	.05
Within groups	64	88.81		
Total	67	105.88		

Critical F, Alpha = .05 (3,64 df)=2.76

As indicated by Table 32 evidence exists to reject the null.

Summary

The analysis of data collected in this study was presented in Chapter Four. The format of presentation was:

1. A table displaying the number of third graders involved in the study.

2. The null hypotheses.

3. Tables showing the means for each of the self-concept and attitude toward school factors.

4. Tables showing analysis of variance statistics, including degrees of freedom, sum of squares, calculated F, P level and critical F for each of the self-concept and attitude toward school factors.

5. A statement of acceptance or rejection of the null.

6. Tables showing the mean scores for each of the sociometric sub questions before the pull-out program began and at the end of the school year.

7. Tables showing the increase, decrease and unchanged numbers and percentages for each of the sociometric sub questions between the beginning and end of the school year.

8. Tables showing analysis of variance statistics including degrees of freedom, sum of squares, calculated F, P level and critical F for each of the sociometric sub questions before the pull-out program began and at the end of the school year.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter includes a summary of the research on comparisons of differences of self-concept, attitude toward school and sociometric status of identified mentally gifted third graders involved in a pull-out program and those not involved in a pull-out program. Additionally, conclusions drawn from the data will be presented, and recommendations made for further action and study.

Summary

The tailoring of instruction to meet the needs of each learner within the structure of the American school system has long been a goal of our society. Part of this need is included within the structure of the affective domain. Self-concept, attitude toward school and better sociometric status are important parts of the domain. The need for this individualization has been more adequately met at the middle and lower ends of the intellectual spectrum. An increase in the awareness for this need at the upper end of the spectrum has caused a rise in the number of programs offered throughout the United States.

The present study was conducted to determine if the self-concept, attitude toward school and sociometric status of third graders involved in such a program were different

than that of the same type of student not involved in a program designed for mentally gifted students.

The children of two school districts were studied, those from Bozeman, Montana and Belgrade, Montana. These sites were selected because of similarities in the populations, teachers and schools in those locations. The exception was that the Bozeman district had a pull-out program for mentally-gifted third graders in which they received 20 percent of their instruction outside their regular classroom. Belgrade had no such program.

The researcher tested second graders in both districts to determine which students in Bozeman would be qualified for the pull-out program, and which Belgrade students had they lived in Bozeman, would be qualified for the pull-out program. At the beginning of the third grade year, all third graders in both districts were administered the sociometric questionnaire. Sub-questions in this questionnaire related to scholastics, social acceptance, extra-curricular leadership and creative-scholastics. The questionnaire was readministered near the end of that same school year to determine if the sociometric status of mentally gifted third graders changed.

Also near the end of the third grade year, the How I See Myself Scale was administered to determine if there was a difference in self-concept and attitude toward school of mentally gifted third graders in a pull-out program and

those not in a pull-out program. Control groups in both districts were administered the same tests.

Thirteen null hypotheses of no difference in self-concept, attitude toward school and sociometric status between mentally gifted third graders involved in a pull-out program, a control group of third graders not identified as mentally gifted in the pull-out program district, mentally gifted third graders in a district where there was no pull-out program and third graders not identifed as mentally gifted in a district where there was no pull-out program were tested.

Of the thirteen, three hypotheses regarding self-concept were accepted and one rejected. The single hypothesis regarding attitude towards school was accepted. Eight of the null hypotheses dealt with the sociometric status of mentally gifted children. Four stated no difference in the groups at the beginning of the school year, before the pull-out program began and four stated no difference after a year of participation in the pull-out program by the Bozeman mentally gifted students. Each of the hypotheses was accepted for the beginning of the year. Only one hypothesis for the end of the year was accepted. It is important to note that the number of times the students in the mentally gifted pull-out groups were chosen between the beginning of the year and the end of the year decreased for each of the four sociometric sub-questions.

Conclusions

The following are conclusions based on a study of the literature and the writer's research.

The general conclusion drawn from these data was that little difference was shown between mentally gifted children in a pull-out program, those not in a pull-out program and randomly selected control groups from each of the two districts used in the research. However, it is evident that a definite downward trend existed in the sociometric status of mentally gifted students who had participated in a pull-out program. The literature as summarized by Gallagher (1975) supported these findings. To reiterate, four of four null hypotheses were accepted before students had a knowledge of who would participate in a pull-out program. After a school year of participation, three nulls were rejected. The social acceptance sub-question (If you were having a party at home, which of your classmates would you choose to come?) was shown not to have any statistical significance and was therefore accepted. However, 45.4 percent of the students in the pull-out program were chosen fewer times for the social acceptance sub-question after participation in the program. To this researcher, only one obvious conclusion could be drawn: mentally gifted third graders who participated in a pull-out program lost some sociometric status in each of the four areas tested.

In each of the other tested areas, no attempt was made

to determine a change in attitude toward self and school, but only what attitudes were at the end of the school year. Very little difference was shown among the four groups in any of the areas. The following is an item by item analyses of the research.

Self-Concept: Physical Appearance Factor

Although no statistically significant difference was shown among the four groups, the mean score on the physical appearance factor questions for the control groups was 29, while the mentally gifted pull-out group averaged 25 and the mentally gifted non pull-out group 26.75.

Gallagher (1975, p. 34) summarizing the findings of Terman and Ogden (1951, p. 23-24) stated, "The average member of our group (mentally gifted children) is a slightly better physical speciman than the average child. . ."

Whitmore (1980) said, "The physical characteristics of the gifted child are equal to those of other intellectual groupings." Although the literature indicated equal or better physical characteristics of mentally gifted students, those in this population did not view themselves as having such attributes. No physical observation of these students was done by the writer, nor were tests administered to actually compare physical characteristics between and among groups. Although no definitive conclusions may be drawn from this inconsistency, the writer believes the difference may be one of definition. Third graders might equate

physical appearance with attire.

Self-Concept: Interpersonal Adequacy Factor

The null for the interpersonal adequacy factor was also accepted. Mean scores for this set of questions ranged from 60.42 to 64.0. The control groups achieved the two highest scores for this factor. The mentally gifted pull-out group scored slightly higher than the mentally gifted non pull-out group. Individuals of superior intellect tend to be perfectionists. Strang (1951) implied the drive for perfectionism when she discussed the feelings of inferiority and inadequacy frequently expressed by the gifted. In this regard the findings of this researcher seem to corroborate those of others. Although no statistically significant difference was shown among the four groups studied, the two control groups did have higher means than the mentally gifted group in the pull-out program.

Self-Concept: Autonomy Factor

The only hypothesis rejected under the self-concept heading was autonomy. The calculated F for this factor was 3.62, while the critical F was 2.76. Those scoring high in this category would appear to be more task oriented and less group oriented. They are able to function by themselves without the help of others.

The only evidence this writer found in his review of literature to indicate that the mentally gifted child might also be an autonomous child was loosely inferred from Terman

(1951) who indicated that many gifted children were collectors and hobbyists. In addition Lucito (1959) compared bright and dull sixth graders. He found bright children less likely to conform to the opinions of a group than dull children. These obviously are not definitive statements, and none is intended. Other writers, such as Strang (1951) stated that they were not able to easily "make it on their own." These statements are more relative to classroom instruction and are not as pertinent to the single self-concept factor of autonomy.

The difference between the mentally gifted pull-out group and the mentally gifted non pull-out group is minimal (Mean=29.55 vs Mean=29). Control groups achieved scores of 32.22 (pull-out) and 32.33 (non pull-out).

This researcher believes that the large number of group oriented projects associated with pull-out programs may account for the lack of feelings of autonomy for that group. No similar conclusions, obviously, can be drawn for the circumstances of mentally gifted non pull-out group.

Self-Concept: Academic Adequacy Factor

The results of the fourth and final factor under the self-concept rubric were consistent with the literature. Identified mentally gifted third graders' attitudes about their academic adequacy did not surpass those of other groups. The null hypothesis for this factor was accepted. Means for the four groups ranged from 20 to 23.58 (Table 9).

One may conclude from these data, that being involved in a program especially designed for the intellectually superior did not necessarily cause them to feel that they had superior academic adequacy. These data support Terman and Ogden's (1951) report that as compared with unselected children, they are less inclined to boast or to overstate their knowledge.

Attitude Toward School: Teacher School Factor

One factor, Teacher-School in the How I See Myself Scale related to attitude toward school. The null hypothesis for this factor was accepted. A difference of only .94 point existed between the mean of the highest scoring group (pull-out control) and the lowest scoring group (mentally gifted non pull-out) (Table 11).

Numerous characteristics were listed in the review of literature as being necessary for appropriate and successful teaching of mentally gifted students. No attempt was made in this study to determine the characteristics or effectiveness of the teachers of either the Bozeman or Belgrade groups. Regardless of those facts, virtually no difference was found to exist in the feelings of any of the four groups toward their teachers or their schools. Conclusions drawn from these data are that participation or non-participation in a pull-out program has virtually no effect on the attitude toward school of third grade students.

Sociometric Status

Several researchers were quoted by Gallagher (1975) regarding the social status of high IQ elementary school children. Among these were Grace and Booth (1958), Grupe (1961), Johnson and Kirk (1950) and Miller (1956). A summary of these data indicated that there was a decline in the social status of this group between elementary and secondary school, gifted children were able to identify their social status and that of others correctly, better than the average and they tend to choose each other for friends in pull-out situations. Accelerated promotion does not affect their social acceptance. Gifted children are chosen socially by average youngsters, even though differences are seen by the average IQ child. Most important, is that gifted children seem to lose some of their social acceptance when they participate in pull-out programs.

This last statement appears to be verified by the data gathered for the four sociometric sub-questions. Although no statistically significant difference was shown on any of the hypotheses for the four sub-questions at the beginning of the year, only one hypothesis was accepted at the end of the year. Fewer mentally gifted pull-out group members increased in the incidence of times chosen, than decreased, between the beginning and the end of the school year; i.e., mentally gifted pull-out program members experienced an

overall drop in popularity.

The sociometric questionnaire was administered to all four groups in the fall, before the commencement of the pull-out program, and subsequently near the end of the school year. Third graders in Bozeman were unaware at the beginning of the year, of which classmates were slated for the pull-out program. The researcher assumed that by the end of the school year they did know that some children left their classroom periodically during the course of the year to attend a special program for mentally gifted students.

Under the sociometric rubric, hypotheses relating to the four sub-questions were accepted in the fall. However, all but one were rejected in the spring. Only the social acceptance hypothesis was accepted, while the scholastic, extra-curricular leadership and creative scholastics hypotheses were rejected. These data are in agreement with Gallagher's (1975) summary that some social status was lost when children were removed from the regular classroom to participate in a special program for the mentally gifted. It appears that this downward trend was attributable to programs, and not to differences between other environmental factors in Bozeman and Belgrade.

This researcher has assumed that the academic standards of programs designed for mentally gifted students are high and that the students benefit in that regard. No data were gathered in this area to substantiate the assumption. The

data gathered were all in relation to the affective domain.

Recommendations

It is therefore recommended that an objective of mentally gifted pull-out programs should be to meet the above goals, and to train their students as our future leaders. They should be counseled to understand that they are not elite, not better than their counterparts of similar age, but capable of high performance and leadership roles. They should be helped to have strong feelings about their worth and be shown how to express these feelings without boasting or at the expense of others.

This researcher recommends that programs designed for mentally gifted students continue their current strong academic orientation, while incorporating curricula which will enhance the positive feelings these students have about their self-concept and attitude toward school. No recommendations are made in regard to formally attempting to change their peers attitudes toward them. If the mentally gifted students are sufficiently trained to have positive feelings about themselves without overtly and vocally displaying them, greater acceptance by their peers will follow.

A study of the relationships between classroom teachers and their mentally gifted students should be done to determine which teacher characteristics best enhance the feelings of self-concept, attitude toward school and social

acceptance of mentally gifted students.

It is further recommended that studies be done to determine the most suitable methods for increasing the positive feelings of self-concept and attitude toward school of mentally gifted students. Classroom teachers and school administrators should be instructed in the most suitable methods of bringing out the most positive feelings of self-concept and attitude toward school of their mentally gifted students. Parents of mentally gifted students should be informed of the special attributes of their children so that they may help them increase their self-concept and attitude toward school.

College level educational psychology and special education classes should include methods of enhancing the most positive aspects of self-concept and attitude towards school of mentally gifted students.

This study should be duplicated to confirm the findings therein. Similar research should be done at other elementary grade levels for purposes of comparison.

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APPENDICES

APPENDIX A

LETTER FROM DR. GERALD SULLIVAN DISCUSSING SOCIOGRAMS AND RELIABILITY AND VALIDITY DATA, SOCIOMETRIC QUESTIONNAIRE

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Telephone (406) 994-4933

May 21, 1984

Mr. Norm Crane
310 E. Lincoln
Bozeman, MT 59715

Dear Norm:

As requested, I have written this letter to discuss the use of a sociogram (as described in the Student Teaching Handbook - MSU - Sept. 1981) in your doctoral thesis.

The procedure for the sociogram in the Student Teaching Handbook is similar in nature to, and contains the criterial elements of, the Sociometric Method described by Gilbert Sax - Principles of Educational and Psychological Measurement and Evaluation - 1980.

Sociometry is a method developed by Jacob Moreno (1953) to investigate interaction patterns in peer groups. A discussion of the limitations, reliability, and validity of sociometric data may be found in Sax's text, pages 175-176.

Respectfully submitted,

Gerald D. Sullivan
Prof., Elementary Education
Montana State University
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GS/jks

CC: Dr. Thibeault
File

Sociometry--Reliability and Validity

Sax (1968, p. 263) informs,

> The study of group behavior is especially important in education, where the class is a social group composed of students who perceive and interact with one another--often in complex ways not easily understood by the teacher. As currently used, sociometry simply requires the investigator to ask subjects to nominate their peers for a given and specific activity. Usually this activity is one in which the subject himself has some interest, such as nominating one or more persons he would like to sit next to, work with, or play with.

Sax (1968 p. 265) continues,

> The reliability of sociometric choices has been investigated by using measures of stability and internal consistency. Stability may be estimated by correlating the number of choices received by subjects with the number of choices they receive sometime in the future.

Gronlund (1959 p. 152-153) summarizes the results of reliability studies of sociometric measures as follows:

1. The stability of sociometric results tends to decline as the time span between tests is increased.
2. There is a tendency for the stability of sociometric test results to increase as the age of the group members increase.
3. Sociometric status scores based on general criteria (such as work or play) tend to be more stable and more consistent over various situations than those based on specific criteria (such as working on arithmetic or playing baseball).
4. Composite sociometric status scores based on several criteria tend to be more stable than sociometric status scores based on a single sociometric criterion.
5. The use of an unlimited number of sociometric choices, five positive choices and three positive and three negative choices tends to provide similar sociometric results. The use of fewer choices

provides less reliable sociometric result.

6. The social structure of a group tends to be less stable than the sociometric status of the group members.

7. The sociometric positions of leadership and isolation tend to be more stable and more consistent over various situations than those in the average sociometric categories.

Sax (1968 p. 266) continues,

> It should be remembered in interpreting the reliability of sociometric measures that reliability is concered with measurements which include persons and situations, as well as the test or technique itself. Changes in group structure would be accompanied by our correlations.

Validity may also be difficult to obtain. If we are interested only in choices made by subjects, sociometry can operationally define those choices and no other evidence of validity is required. By using concurrent validity studies we can tell what variables are associated with sociometric choices.

APPENDIX B

LETTER FROM MR. JIM MONGER

VERIFYING DEMOGRAPHICS

MONGER
AND
Associates
Airport and Industrial Consultants

April 24, 1984

To Whom It May Concern:

Please be advised that the quotes made by Norman Crane in his doctoral dissertation regarding the demographics of Belgrade are in my opinion true and accurate.

Respectfully submitted,

James H. Monger

James H. Monger

lw

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