To the Graduate Council:

I am submitting herewith a dissertation written by Nancy M. Marcus entitled "A Study to Design a Rating Scale for the Development and/or Assessment of Programs for Gifted/Talented Students." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Curriculum and Instruction.

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Thomas N. Turner, Major Professor

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Vice Provost and
Dean of the Graduate School

A STUDY TO DESIGN A RATING SCALE FOR THE DEVELOPMENT AND/OR ASSESSMENT OF PROGRAMS FOR GIFTED/ TALENTED STUDENTS

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Nancy M. Marcus

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DEDICATION

I dedicate this dissertation to my husband, Bill, and our children: Zack, Katie, and Kensley.

ACKNOWLEDGEMENTS

I would like to express my appreciation to several people who have assisted me while I have worked to earn this degree. First, I thank my committee members: Dr. Thomas N. Turner, my chairman, Dr. John Ray, Dr. Paul Wishart, Dr. Robert Roney, and Dr. John Lovell. I appreciate their helping me with class work, conducting my research, and the writing of this dissertation.

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I especially appreciate the cooperation of the administrators, teachers, parents, and students involved in the three identified programs for academically talented students, who assisted me in gathering the data for my study. I also want to extend my gratitude to the educators who evaluated my Rating Scale for The Development and/or Assessment of Programs for Gifted/Talented Students. I appreciate their taking time to offer comments that enabled me to revise the instrument.

Finally, I want to express my gratitude to the professors, secretaries, and other people at The University of Tennessee,

Knoxville, who have assisted me during the five years I have worked toward this goal.

ABSTRACT

The purpose of this study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. Specifically, the questions addressed in this study were:

1. What areas of concern are identifiable in regard to programs for gifted/talented students?

2. What criteria should be met in the development and/or assessment of programs for gifted/talented students?

3. By what means could these criteria be used to determine the relative quality and value of any program for gifted/talented students?

In order to achieve the purpose of this study, first, a review of the literature concerned with the research and education of gifted/talented students was conducted. This review revealed that certain topics regarding programs for gifted/talented students were consistently emphasized throughout the literature. These topics were: written goals and objectives, identification of students, teaching strategies, content taught, qualifications of teachers, and evaluation procedures of programs. The researcher then, identified these topics as areas of concern in the development and/or assessment of programs for gifted/talented students.

In the second phase of the study, the researcher surveyed three programs for gifted/talented students. The purpose of this survey was to ascertain if the areas of concern identified from

the literature, were also perceived to be areas of concern by persons involved in actual programs for gifted/talented students.

The data from the survey supported the findings in the literature. Therefore, based on these sources of information, the researcher developed a qualitative criterion which addressed each area of concern. These criteria then were used as the framework of an instrument which would serve as a guide in the development and/or assessment of an effective program for gifted/talented students. The rating scale should provide a standard by which the relative quality and value of any program for gifted/talented students could be determined.

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CHAPTER 1

INTRODUCTION

> We know that gifted children can be identified as early as the elementary grades and that these children in later life often make outstanding contributions to our society in the arts, politics, business, and the sciences. But, disturbingly, research has confirmed that many talented children perform far below their intellectual potential. We are increasingly being stripped of the comfortable notion that a bright mind will make its own way. Intellectual and creative talent cannot survive educational neglect and apathy (U.S. Congress Committee Prints, 1972, p. 9).

Gifted children have often been considered an enigma in the classroom, and many educators have found themselves in a quandary when confronted by a gifted student. It has been sad, but true, that too often this child has been ignored rather than nurtured. Gallagher has addressed this thought in the following statement:

> Society has readily said, "They will make it anyway," (not true of many); or "We must wait until we have dealt with children with learning problems, and then we can pay attention to these students," (this will make sure that nothing will happen); or, solicitously, "Too much stimulation might do them harm" (it hasn't happened yet) (Gallagher, 1986, p. 46).

Many teachers and administrators turn a blind eye on a very bright child, even when talent is evident (Tannenbaurm, 1980, p. 2).

Researchers have attempted to identify and define the educational needs of gifted/talented students. Based on a longitudinal study by Lewis Terman, these children were shown to be, not only intellectually superior but also, physically and

emotionally advanced beyond their peers. His research also suggests that the superiority exhibited by gifted children is carried through into adulthood. Such children were found to be more apt to live highly creative, productive lives (Sanders, 1959, p. 25).

Even though research conducted in the first half of this century revealed a definite need to acknowledge these students and offer them a more viable method of education, adequate programs and challenging opportunities did not readily materialize. There were two events in the second half of this century, however, that did have a positive influence on education for the gifted/talented student in America. The first of these was Russia's successful launching of Sputnik in 1957--which seemed to indicate that America was inferior to Russia in the areas of mathematics and science--and the second was the Marland Report to Congress in 1972. The Marland Report was the result of Congressional action. The Congress of the United States expressed its interest and concern in education for the gifted by passing a landmark addition to the Elementary and Secondary Education Amendments of 1969 (Public Law 91-230 section 806), "Provisions related to gifted and talented children." This amendment, unanimously passed in the House and Senate, provided for two specific changes in existing legislation. It explicated congressional intent that the gifted and talented student should benefit from Federal education legislation--notably titles III and V of the Elementary and Secondary Education Act--and established the teacher fellowship provisions of the Higher Education Act of

1965. Section 806 directed the Commissioner of Education, S. P. Marland, Jr., to conduct a study to:

1. Determine the extent to which special educational assistance programs are necessary or useful to meet the needs of gifted and talented children.

2. Show which Federal education assistance programs are being used to meet the needs of gifted and talented children.

3. Evaluate how existing Federal educational assistance programs can be more effectively used to meet these needs.

4. Recommend new programs, if any, needed to meet these needs (U.S. Congress Committee Prints, 1972, p. 1).

The apparent neglect of the gifted and talented child was exemplified when this report revealed the following additional per pupil expenditures for the education of special groups:

a. $28.00--educationally deprived

b. $43.00--handicapped

c. $ 1.00--education of gifted and talented.

Marland's report to Congress concerning the needs of the gifted and talented demonstrated the need for special programs for these students. It stated that, contrary to widespread belief, many of these students cannot excel without assistance. The relatively few gifted students who had had the advantage of special programs demonstrated remarkable improvement in self-understanding and in the ability to relate well with others, as well as improved academic and creative performance. The programs had not produced arrogant, selfish snobs; rather, special programs had

extended a sense of reality, wholesome humility, self-respect, and respect for others. This report was intended to show why public schools were held responsible for providing programs for the gifted (Tannenbaum, 1980, p. 3).

Statement of the Problem

Public schools began providing programs for gifted/talented students at an increasing rate after the Amendment to the Elementary and Secondary Education Act in 1969 and the subsequent report of the Commissioner of Education in 1972. According to the advisory panel to the Commissioner of Education, a qualitatively different educational program had three characteristics:

1. A differentiated curriculum which denotes in higher cognitive concepts and processes.
2. Instructional strategies which accommodate the learning styles of the gifted and talented and curriculum content.
3. Special grouping arrangements which include a variety of administrative procedures appropriate to particular children, i.e., special classes, honor classes, seminars, resource rooms, and the like (U.S. Congress Committee Prints, 1972, p. 11).

Some states have mandated guidelines for program development, while others have left the program design to the discretion of the local school districts.

The need for public schools to provide qualitatively different and uniquely appropriate learning experiences for the more able learners had been established. Support and funding from the

Federal Government was available. Programs developed explicitly to teach and challenge the gifted/talented child to apply himself and develop his abilities to fruition had become more visible in American public schools.

The problem dealt with in this study was the apparent lack of any systematic means or instrument which could be used in the development and/or assessment of programs for gifted/talented students. Many programs were developed without predetermined criteria upon which they could be evaluated. These programs were, by their very nature, diverse, lacking in a common basis of objectives and approaches. Therefore, it has been difficult to determine in such cases to what extent these programs serve the identified student population.

Purpose of the Study

Relative to this problem, the purpose of this study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. Specifically, the questions addressed in this study were:

1. What areas of concern are identifiable in regard to programs for gifted/talented students?
2. What criteria should be met in the development and/or assessment of programs for gifted/talented students?
3. By what means could these criteria be used to determine the relative quality and value of any program for gifted/talented students?

Limitations

The following limitations related to the programs surveyed in this study:

1. All of the programs studied were "pull out" programs where the academically talented students were limited to receiving special instruction and learning activities outside the regular classroom. This means that any description of the success or objectives of these programs may not apply to other types of programs for gifted/talented students where greater or less amounts of time were spent in special instruction.
2. The amount of time alloted for each of these programs was limited to two hours per week. The special classes were taught only once a week during these two hours, rather than having smaller time periods of instruction more often during the week.
3. The methods used to identify the academically talented students in each of these programs were limited to I.Q. scores, achievement test scores, and teacher recommendations. Therefore, it was possible that some qualified students were not chosen to participate in the programs.
4. The topics and units taught in the programs were limited to those chosen by the administrators and

teachers. The relevancy of these units to the achievement of the objectives of the various programs may, therefore, have been a function of the topics themselves and their method of selection.

5. In the programs in this study, the identified students were instructed by regular classroom teachers, not by teachers specifically trained or exclusively employed to teach gifted/talented students.
6. Each of the programs selected for this study was developed for students in elementary school. No follow-through programs existed for the students in these programs.

Delimitations

The delimitations of this study were:

1. Each of the programs in this study drew its students exclusively from the populations of one of three small towns and surrounding areas in East Tennessee.
2. Each of the programs selected for this study was based upon the concept of enrichment. These programs were chosen because the literature indicated that enrichment was more frequently used than acceleration for the organizational structure of programs for gifted/talented students.

Assumptions

The following assumptions were made by the researcher concerning this study:

1. There is generally less absenteeism and lower student turnover among students in rural areas. This was important to the researcher, in order to insure more complete data in a relatively short period of time. Therefore, it was a factor in the selection of the school systems used in this study.
2. There is usually more parent and community involvement in schools located in rural areas than there is in urban schools. The researcher felt that this interest would increase the possibility of the persons involved in these programs completing the questionnaires concerning these programs.
3. The administrators, teachers, parents, and students would respond honestly to the questionnaire.
4. The representatives from each program who participated in the personal interviews, had also completed a written questionnaire.

Definition of Terms

For the purpose of this study a number of terms were used with specific meanings. These include the following:

Acceleration. This refers to curricular offerings, courses of study, and challenging learning experiences beyond regular grade level. Typical accelerated programs include:

Special courses, projects, or seminars

Independent Study

Tutorials

Continuous-progress and/or levels program

Subject acceleration.

Enrichment of Content. This is any learning experience that replaces, supplements, or extends instruction beyond the restrictive bonds and boundaries of course content, textbook, and classroom and that includes depth of understanding, breadth of understanding, and relevance to the student and to the world in which he or she lives (Clendening and Davies, 1983, pp. 4-5).

Enrichment Program. This is a program which represents the only compromise between general education and special education for gifted/talented students. Relying on the typical curriculum as a skeletal structure, the main thrust of an enrichment model is supplementation. The supplemental content may take one of two forms:

1. additive knowledge which embellished upon basic concepts (so-called horizontal enrichment), or
2. qualitatively different or advanced topics not ordinarily dealt with at a given grade level (so-called vertical enrichment) (Rice, 1970, p. 290).

Grouping. This includes provisions that facilitate the students' access to special learning opportunities, such as:

Cluster grouping within the regular class

Special regular or "pull-out" classes

Part-time groups before, during, or after school

Alternative schools

Resource rooms

Field learning experiences

Special summer programs (Clendening and Davies, 1983), pp. 4-5).

The State Department of Education, in its Rules, Regulations, and Minimum Standards, 1986, identified the intellectually gifted child as handicapped because his/her needs and abilities cannot be served in a regular classroom setting (Rules, Regulations & Minimum Standards, 1986, p. 62).

> Handicapped Children - "Handicapped children" means those children 4 through 21 years of age and three-year-old deaf who have been certified under regulations of the State Board of Education by a specialist or specialists as being unsuited for enrollment in regular classes of the public schools or who are unable to be educated or trained adequately in such regular programs without the provision of special classes, instruction, facilities, or related services, or a combination thereof. This term includes the educable, trainable, and profoundly retarded; the speech and/or language impaired; the deaf and hearing impaired; the blind and visually limited; the physically handicapped and/or other health impairments including perceptually handicapped and emotionally conflicted; the multiple handicapped; and the intellectually gifted; and any other child whose needs and abilities cannot be served in a regular classroom setting (Rules, Regulations, & Minimum Standards, 1986, p. 62).

Intellectually Gifted

(I) Definition--A child whose intellectual abilities and potential for achievement are so outstanding that special consideration is required to ascertain the educational needs is considered intellectually gifted.

(II) Criteria for Certification--A child must meet two of the following:

I. Intellectual functioning and ability which measure at least two standard deviations above the mean.

II. Superior academic or achievement ability which measure the 96th percentile or above in one or more major academic areas.

III. Superior intellectual ability demonstrated by the child's ideas and projects related to one or more academic fields.

(III) Evaluation Procedures--The following evaluation procedures must be completed in the areas of the criteria being considered:

I. An appropriate individual evaluation of intelligence will be administered following approved standards for administration. The standard error of measurement should be considered.

II. An evaluation of academic or achievement skills using standardized instruments which include the major academic areas of reading, language arts, mathematics, science, and social studies.

III. The review of ideas and projects shall include as many of the following sources of information as are appropriate for the student being considered:

A. Teacher and/or parent checklists which focus on behavioral characteristics and indicate superior intellectual skills.

B. Consistent, high quality products such as superior creative writing, award winning projects in the academic areas, high quality independent study projects in the academic areas, and outstanding extra curricular projects in the academic areas.

C. National, state, or local awards for outstanding performance in the academic areas.

D. Supior achievements on specialized standardized tests in the academic areas.

E. Anecdotal information from teachers, other educators, or parents indicating quality and insightfulness of a child's ideas, in relation to age level.

(IV). In cases where the certifying specialists determine that assessment measures did not accurately reflect the child's superior academic or intellectual ability, appropriate documentation shall be used to support the determination of intellectual ability and/or achievement. This documentation shall include a parental interview containing a developmental history and each of the evaluation components listed under evaluation procedures.

(V). Certification by Specialist(s)--Children shall be certified as meeting the criteria to be considered or verification for special programming for the intellectually gifted by an evaluation team which includes:

I. The child's referring teacher, or a regular classroom teacher qualified to teach a child of his/her age. In a child of less than school age, an individual qualified to teach a child of his/her age.

II. A certified school psychologist, licensed psychological examiner, or a licensed psychologist.

III. A person knowledgeable in the area of education of the gifted.

IV. Other specialist(s), as appropriate, such as content teacher in area of student's strength.

Documentation of intellectual giftedness must be in writing.

(VI). Verification by the Multidisciplinary Team that special provisions are required to meet the educational needs of the student (Rules, Regulations, and Minimum Standards, 1986, pp. 73-74).

Intellectually Talented: The child must meet one of the following:

I. Score of at least 125 on a group or individual Stanford Binet (or equivalent) intelligence quotient test.

II. Possess high academic or achievement ability which measures the 90th percentile or above in one or more academic areas.
III. Have high intellectual ability demonstrated by the child's ideas and projects related to one or more academic fields (Rules, Regulations, and Minimum Standards, 1986, p. 74).

Pull-out Program. This is when the students identified to participate in a special program are removed, or pulled-out, from the regular classroom for a specified amount of time during which when they receive special instruction and/or take part in extra activities that are not taught in the regular classroom setting (Rice, 1970, p. 290).

Procedure

The purpose of this study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. In order to achieve this purpose, first, a review of the literature concerned with the research and education of programs for gifted/talented students was conducted. This review revealed that certain topics regarding programs for gifted/talented students were consistently emphasized throughout the literature. These topics were: written goals and objectives, identification of students, teaching strategies, content taught, qualifications of teachers, and evaluation procedures of programs. The researcher then, identified these topics as areas of concern in the development and/or assessment of programs for gifted/talented students.

In the second phase of the study, the researcher surveyed three programs for gifted/talented students. The purpose of this survey was to ascertain if the areas of concern identified in the literature, were also perceived to be areas of concern by persons involved in actual programs for gifted/talented students. The steps in the survey included: conducting an informal interview with the administrator of each program in the study, developing a written questionnaire which contained both program-specific and open-ended questions, conducting structured interviews with representatives from each program, analyzing the data, and relating the data to the findings in the literature.

The data from the survey supported the findings in the literature. Therefore, based on these sources of information, the researcher developed a qualitative criterion which addressed each area of concern. These criteria, then, were used as the framework of an instrument which could serve as a guide in the development and/or assessment of an effective program for gifted/talented students. This instrument, a qualitative criterion-based rating scale, was evaluated for construct and content validity by five educators experienced in educating gifted/talented students, and revisions were made by the researcher. This rating scale should provide a standard by which the relative quality and value of any program for gifted/talented students could be determined.

Organization of the Study

Chapter 1 contains a rationale, states the problem addressed, and explains the purpose of this study. Questions, assumptions, definitions of terms, limitations, and delimitations are listed, and a brief review of the procedure is presented.

Chapter 2 presents a review of the literature concerned with the research and education of gifted/talented students. The areas addressed are: historical development, identification of the gifted/talented student, characteristics of the gifted/talented student, grouping, acceleration, enrichment, teachers of the gifted/talented student, teaching-learning models, and programs for gifted/talented students.

Chapter 3 describes the methods used to conduct a survey of three programs for gifted/talented students. A written questionnaire and personal interviews were used to obtain the data concerning the programs. The objective responses were analyzed by computing the percentages of responses for each group of respondents in Programs A, B, and C, and the subjective responses were categorized into specific topics.

The data gathered through the survey of the study are presented in Chapter 4. The percentages of the responses to the program-specific statements are given, and the responses to the open-ended questions and personal interviews are summarized, as they relate to the areas of concern of programs for gifted/

talented students identified in this study. Chapter 4 also contains the complementary criteria developed to address each of the areas of concern and a description of The Rating Scale For The Development and/or Assessment of Programs for Gifted/Talented Students.

Chapter 5 presents a summary, the findings, conclusions, and recommendations of this study, and concludes with recommendations for further research.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

The purpose of the study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. Specifically, the questions addressed in this study were:

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In order to achieve the purpose of this study, first, a review of the literature concerned with the research and education of gifted/talented students was conducted. This review revealed that certain topics regarding programs for gifted/talented students were consistently emphasized throughout the literature. These topics were: written goals and objectives, identification of students, teaching strategies, content taught, qualifications of teachers, and evaluation procedures of programs. The researcher

then, identified these topics as areas of concern in the development and/or assessment of programs for gifted/talented students.

In the second phase of the study, the researcher surveyed three programs for gifted/talented students. The purpose of this survey was to ascertain if the areas of concern identified from the literature, were also perceived to be areas of concern by persons involved in actual programs for gifted/talented students. If the data from the survey were found to support the literature, the researcher reasoned that this would warrant the development of a qualitative criterion which would address each area of concern.

These criteria, then, would be used as the framework of an instrument which would serve as a guide in the development and/or assessment of an effective program for gifted/talented students. This instrument, a qualitative criterion-based rating scale, would be evaluated for construct and content validity by educators experienced in educating gifted/talented students, and revisions would be made by the researcher. This rating scale should provide a standard by which the relative quality and value of any program for gifted/talented students could be determined.

Chapter 2 addresses the literature concerned with the research and education of gifted/talented children. Most of the literature related to the purpose of this study was categorizable into the following topics: historical development of education for gifted/talented students, identification of gifted/talented students,

characteristics of gifted/talented students, teachers of gifted/talented students, grouping, acceleration, enrichment, teaching/learning models, and programs for gifted/talented students.

Historical Development of Education for Gifted/Talented Students

The concept of superior intellect, or being mentally gifted, is not new. Even prehistoric men have been cited as being aware that some persons possessed superior mental abilities (Roedell et al., 1980, p. 3). Plato (427-347 B.C.) advocated educating citizens of a republic to do that for which they were suited. He identified the gifted children by testing their ability to "detect deceit, recognize superstitions, and profit by 'trial and error' learning" (Sumption, 1941, p. 1). He distinquished these students as the "men of gold," with superior intellects, from those of "silver" and "iron and brass," and educated them to become philosopher-kings. As children they should be instructed in such subjects as philosophy, metaphsics, and science, which would be beyong the ability of those who were destined to become soldiers or artisans (Vernon, Adamson, & Vernon, 1977, p. 2). Even though Plato's concept of the Philosopher-king did not prevail through the centuries, the idea that certain individuals did think and reason on a superior level continued to be recognized.

Sir Francis Galton, an English statistician, was a forerunner in the actual study of the intellectual capacities of man. In Hereditary Genius, Galton wrote: "I feel convinced that no man

can achieve a very high reputation without being gifted with very high abilities" (Galton, 1869, p. 88). This gift, Galton reasoned, was inherited. To substantiate this belief, he revealed the lineage of several eminent families in England. From this study, Galton was able to predict accurately the regression toward the mean which occurs in the offspring. Using the theoretical law of deviation from an average, Galton concluded the following:

> Hence, we arrive at the undeniable, but unexpected conclusion, that eminently gifted men are raised as much above mediocrity as idiots are depressed below it; a fact that is calculated to considerably enlarge our ideas of the enormous differences of intellectual gifts between man and man (Galton, 1869, p. 90).

From his studies, Galton reasoned that it would sometime be possible to obtain a general knowledge of the intellectual capacities of a man by "sinking shafts" at a few critical points into a person's mental abilities (Terman, 1919, p. 1). This belief began to materialize with the development of a system of mental tests by Alfred Binet.

Binet, a French psychologist, was assigned to produce a test which would screen out mentally retarded children from the Parisian school system (Stanley, George, & Solano, 1977, p. 10). After more than 15 years of research, Simon and Binet introduced in 1905 their first tests. These tests were designed to measure how well a child completed a task which had been arranged in a serial order by age. From this, the concept of "mental age" was introduced (Terman, 1919, p. 7).

After studying the Simon-Binet tests, Lewis Terman concluded that it was possible to measure intellectual development in all children, not just the feebleminded. Terman revised the Simon-Binet tests so that they were modified to test all children, and the scale was particularly adapted for the measurement of the gifted. Since this revision, they have been known as the Stanford-Binet intelligence tests (Stanley, George, & Solano, 1977, p. 11).

In addition to his work with intelligence tests, Terman conducted an extensive longitudinal study of gifted children. Beginning in 1921, after using the intelligence test to identify one thousand gifted students, he attempted to find what traits characterize gifted children and then follow these children for as many years as possible to see what kind of adults they might become. Terman has been criticized for choosing children who met only one criterion--that of scoring very high on the Stanford-Binet Intelligence Test. The distribution of the one thousand subjects in this study has been questioned, because there was an over representation of children with professional, well-educated, white parents who had settled in the cities of California (Laycock, 1979, p. 34).

The results of this research were recorded in five volumes of Genetic Studies of Genius by Terman, 1925-1959. Terman's subjects were found to be superior to their peers in virtually every aspect both during youth and into adulthood. Terman's children were larger at birth, walked sooner, had fewer diseases or operations, and reported less nervousness than would be expected from

average persons. The entire picture was one of physical superiority. Terman's children excelled in school at both the elementary and secondary levels. Most went directly on to college (87% of the men, 83% of the women) and most of these were graduated (70% of the men, 67% of the women). The real proof of staying power came after the bachelor's degree. Two-thirds of the men and almost three-fifths of the women earned one or more higher degrees. The 1959 report listed 97 doctorates, 54 medical degrees, and 92 legal degrees. These figures are three to five times those for college graduates as a whole. The careers of this group are reflections of their educational success. Even though some of the women had careers, over half were housewives with no steady outside employment. The men, however, set a remarkable record. Nearly 90% were in professional or managerial positions, the remainder in retailing, agriculture, or semiskilled occupations. Fewer than 3% were unemployed, half of them because they had independent means or had retired (Terman and Oden, 1959). Data gathered as late as 1977 revealed that the attitudes toward "work, health, and self-worth" were very consistent, so that one could go back to the earlier files and predict later behavior (Laycock, 1979, pp. 38-45). A very important aspect to be gained from Terman's study is that a high IQ can be regarded as a good indicator of probably success (Terman and Oden, 1947). It has been shown that this trait is useful in identifying an individual who possesses the potential to achieve an unlimited number of accomplishments. This should not

imply, however, that a person who scores high on an IQ test will always realize his potentialities; nor does it mean that a person who does not score high on an IQ test cannot, or will not, be successful, have a sense of self-worth, and make a significant contribution to society. Several other factors are influential upon a person's development (e.g. self-confidence, motivation--both internal and external--expectations, and encountered learning experiences). Terman's subjects were thought to have many factors other than just a high IQ in their favor, due to their family backgrounds. Paul Witty stated that although his studies corroborated Terman's reports, he differed markedly in his interpretation of the data. Witty doubted whether one is justified in asserting that a high IQ may be used to predict attainment that may be regarded as the work of "genius," and stressed the importance of other factors such as unusual opportunity, drive, and interest (Witty, 1971, p. 39).

Other longitudinal studies of mentally gifted children revealed similar findings to those of Terman's. Leta S. Hollingworth reported that the general health was always considered good and that the development of these children was ahead of schedule in all respects (Hollingworth, 1926). Olson found that the gifted child is not only superior in intellectual ability, but his entire growth pattern is accelerated, and Paul Witty's studies acknowledged that the physical status and general growth of the group are undoubtedly above average (Barbe, 1965, p. 249).

Studies such as those conducted by Terman and Hollingworth, have generally been credited with revising the early connotations associated with these children. The stereotype of physically inferior, weird, and even insane was replaced by gifted, talented, and exceptional. This new attitude seemed to be accompanied by the hope that these students would be identified early, encouraged to develop their abilities, and recognized as unique individuals with a greatly needed potential (Barbe, 1965, pp. 4-5).

In response to this altered opinion, it was perceived that special provisions were needed to enhance the educational opportunities of these students. Several publications were made available, and events and legislative actions occurred which benefitted the academically gifted/talented child (see Figure 1). This Figure highlights milestones from 1870 to 1983 in the history of American education for the gifted and talented. Even though educators were becoming aware of the need to recognize and serve the academically gifted/talented student, it was only after Russia's successful launching of Sputnik in 1957 and the Marland Report to Congress in 1972, that America actually began providing special programs for these children.

It should be noted also that the literature reveals a strong movement--begun by educators and psychologists in the early 1950's--toward challenging the terms "genius" and "gifted." Galton described "genius" as "recognized achievement," (Galton, 1869, p. 88), and through Terman's studies, "gifted" became synonymous

Date	Publication or Event	Description
1870	Francis Galton, Hereditary Genius: An Inquiry into its Laws and Consequences (New York: Appleton).	Stated that mental capacities are inherited and follow certain laws of transmission; the first quantitative psychological study of giftedness.
1903	J. McK. Cattell, "A Statistical Study of Eminent Man," in Popular Science Monthly, 62 (1903): 359-377.	Stated the belief that innate characteristics were more potent than social tradition or physical environment.
1916	Lewis M. Terman, The Measurement of Intelligence (Boston: Houghton).	Recommended that courses of study be designed to permit progress at a rate normal for the individual student; also recommended that teachers measure out the work for each child in proportion to the child's mental ability.
1925	Lewis M. Terman, Genetic Studies of Genius, Mental and Physical Traits of a Thousand Gifted Children, Vol. I (Stanford, CA: Stanford University Press).	Initiated a longitudinal study of approximately 1,500 children with high IQs; study now in progress for more than 60 years.
1926	G. Wallas, The Art of Thought (New York: Harcourt).	Identified four distinct stages in forming new thoughts: preparation, incubation, illumination, verification.
1931	White House Conference on Child Health and Protection, Report of the Committee on Special Classes, "Gifted Children," in Special Education: The Handicapped and the Gifted, Education and Training, Sec. 3 (New York: Century), pp. 537-550.	Stressed that giftedness meant "merely the child with exceptional intelligence" and did not refer to gifts in art, music, poetry, and other areas.
1945	General Education in a Free Society: A Report of the Harvard Committee (Cambridge, MA: Harvard University Press).	Stressed that equality of opportunity does not mean identical provision for all; rather it means access for all to those avenues of education that match their gifts and interests.
1950	The National Education Association's Educational Policies Commission, Education of the Gifted (Washington, D. C.: National Education Assoc.).	Decried America's neglect of mentally superior children and the resulting shrinkage of personnel in the sciences, arts, and professions.
1950	J. P. Guilford's presidential address to the American Psychological Association (APA).	Challenged APA members to pursue research studies of creativity.
1953	A. F. Osborn, Applied Imagination: Principles and Procedures of Creative Problem Solving (New York: Scribner).	Recommended "brainstorming" as a means of utilizing personal interaction.
1954	Abraham Maslow, Motivation and Personality (New York: Harper).	Believed that the creative person is healthy and self-actualizing; that creativity involves a fundamental change in personality structure; and that this change occurs in the direction of fulfillment.
1956	Benjamin Bloom, Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I, Cognitive Domain (New York: McKay).	Grouped learning experiences in a hierarchy from the lowest to the highest mental processes; advanced the theory that knowledge is but the first step along the road to learning.

Figure 1. Milestones in the History of Gifted and Talented Education.

Date	Publication or Event	Description
1957	Sputnik orbited by the Russians.	Generated unparalleled congressional interest in and concern for upgrading education in mathematics, science, and foreign languages.
1958	Congress passed National Defense Education Act.	Authorized federal funds for educational purposes in the form of loans and grants; provided funds for strengthening specific educational offerings in science, mathematics, and foreign languages in both public and private schools on the basis of national interest.
1958	Rockefeller Brothers Fund, The Pursuit of Excellence: Education and the Fuure of America, America at Mid-Century Series, Special Studies Project Report 5 (New York: Doubleday).	Stressed that it is the birthright of each American citizen to have his or her individuality respected; correlated the optimum development of the individual with the health of society itself, for enabling each citizen to achieve to the optimum of his or her potential is a means of society's reinvigorating itself.
1959	Irving A. Taylor, "The Nature of the Creative Process," in Creativity: An Examination of the Creative Process, ed. by P. Smith (New York: Hastings House).	Identified five levels or dispositions of creativity: expressive, technical, inventive, innovative, emergentive.
1959	J. P. Guilford, "Traits of Creativity," in Creativity and Its Cultivation, ed. by H. Anderson (New York: Harper).	Identified 120 factors of intellectual ability embodied in a three-dimensional theoretic model of intelligence, which he called the "Structure of Intellect."
1960	John C. Flanagan designed and initiated Project TALENT.	Undertook a scientific national longitudinal inventory of human talents encompassing some 440,000 students in 1,350 secondary schools in all parts of the country; planned follow-up studies for next quarter-century to relate performance in adult life to aptitutdes measured in adolescence.
1960	Report of the President's Commission on National Goals, Goals for Americans (Englewood Cliffs, NJ: Prentice-Hall).	Stated that equality of opportunity for all citizens to experience an educational program uniquely reflective of the individual citizen's capabilities is the only goal worthy of a free society.
1961	John Gardner, Excellence: Can We Be Equal and Excellent Too? (New York: Harper).	Stated that equalitarianism is wrongly conceived when it ignores differences in native capacity and achievement; stressed the necessity of all who care about excellence in a society vigilantly striving to prevent the waste of talent.
1962	Jacob Getzels and Philip Jackson, Creativity and Intelligence: Explorations with Gifted Students (New York: Wiley).	Reported research that substantiated a valid distinction between creativity and the traditional concept of general intelligence.
1962	E. Paul Torrance, Guiding Creative Talent (Englewood Cliffs, NJ: Prentice-Hall).	Defined creative thinking as the process of sensing gaps or disturbing, missing elements; forming ideas or hypotheses concerning them; testing these hypotheses; and communicating the results, perhaps modifying and retesting the hypotheses.

Figure 1 (Continued).

Date	Publication or Event	Description
1964	David R. Krathwohl, ed., Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook 2, Affective Domain (New York: McKay).	Grouped educational objectives in a hierarchy from the simple to the complex, with each level demanding of the learner an ever greater sense of personal involvement, decision making, and commitment.
1968	Arnold Toynbee, "Is America Neglecting Her Creative Talents?" in Creativity Across Education, ed. by Calvin Taylor (Ogden: University of Utah Press).	Declared "To give a fair chance to potential creativity is a matter of life and death for any society. This is all important, because the outstanding creative ability of a fairly small percentage of the population is mankind's ultimate capital asset."
1970	Congress passed P. L. 91-230.	Mandated in Sec. 806 that the U. S. Commissioner of Education conduct a study evaluating the status of education for the nation's gifted and talented children and report findings, together with recommendations, to the Congress not later than one year after the enactment of this act.
1970	Frank E. Williams, Classroom Ideas for Encouraging Thinking and Feeling (Buffalo, NY: D.O.K. Publishers).	Provided a three-dimensional model for implementing cognitive-affective behaviors in the classroom.
1971	Sidney P. Marland, Jr., U. S. Commissioner of Education, report to Congress, Education of the Gifted and Talented (Washington, D. C.: Department of Health, Education, and Welfare).	Prepared report in compliance with the 1970 congressional mandate (P. L. 91-230, Sec. 806) for a status report on education of gifted and talented children; generated considerable interest on the federal, state, and local levels.
1972	U. S. Commissioner of Education Report, Education of the Gifted and Talented, an official document of the Committee on Labor and Public Welfare (Washington, D. C.: Government Printing Office).	Acclaimed as a landmark document in the education of gifted and talented children.
1972	ERIC Clearinghouse on Handicapped and Gifted Children established.	Operated by the Council for Exceptional Children since its inception in 1972, the Clearinghouse gathers, evaluates, abstracts, and disseminates information on all aspects of gifted and talented education.
1972	National/State Leadership Training Institute (LITI) on the Gifted and Talented established.	Created and funded through a grant authorized by the Education Professions Development Act, LTI has directed its efforts to changes at the state level, developing training programs and modules for regional offices, states, and local education agencies.
1972	U. S. Office of Education, Office of Gifted and Talented established under the Special Project Act of P. L. 93-380.	Focused national attention on the needs of gifted and talented children; provided leadership in explaining and promoting differentiated programs for the gifted and talented on the state, regional, and local levels.
1975	Congress passed P. L. 94-142, the Education for All Handicapped Children Act.	Guaranteed that all exceptional children have available to them a free appropriate public education.

Figure 1. (Continued).

Date	Publication or Event	Description
1976	Joseph S. Renzulli presented The Triad Enrichment Model.	Offered students three types of enrichment: Type I: General Exploratory Activities; Type II: Group Training Activities; Type III: Individual and Small Group Investigations of Real Problems.
1978	The Council for Exceptional Children, The Nation's Commitment to the Education of Gifted and Talented Children and Youth (Reston, VA: Council for Exceptional Children).	Reported findings from the 1977 survey of states and territories identifying current policies, resources, and services for the education in gifted and talented children in all 50 states and U. S. territories.
1978	Congress passed P. L. 95-561.	Provided financial assistance to state and local educational agencies, institutions of higher education, and other public and private agencies and organizations to assist such agencies, institutions and organizations to plan, develop, operate, and improve programs designed to meet the special educational needs of gifted and talented children (Clendening and Davies, 1980, pp. 8-12).
1983	Advisory Panel to the U. S. Office of Gifted and Talented endorsed the establishment of a National Planning Effort chaired by Dr. James Gallagher to conduct surveys to determine status of programs provided for gifted/talented students.	1. The Pull-out on resource room concept was preferred at the elementary level. 2. There was a strong statement for the need for continuous in-service training, for continuous upgrading of teachers in both content and skills. 3. Support was expressed for more state financial encouragement to local districts (Gallagher, Weiss, Oglesby, and Thomas, 1983, p. 15).

Figure 1. (Continued).

with "high IQ." Getzels and Jackson, in Creativity and Intelligence: Explorations With Gifted Students, list three severe limitations of using only one criterion--the score made on an intelligence test--to designate a "gifted" child. These limitations are:

1. First it suggests that the common intelligence test samples all, or at least a sufficiently broad range, of known cognitive abilities. It thus discourages the observation of other types of cognitive functioning. To do well on the typical intelligence test, the subject must be able to recall and to recognize, perhaps even to solve; he need not necessarily be able to invent or innovate.

2. Second, although the correlation between the IQ and learning is positive--and we ought to say at once that we recognize the IQ as probably the best single measure we have--it nevertheless rarely accounts for more than one quarter of the variance in such crucial factors as school achievement and academic performance. The student with a higher IQ who is doing poorly in school and the student with a lower IQ who is doing well appear too often for the IQ to stand as the only predictive measure of intellectual ability or as the sole criterion of giftedness.

3. And third, the IQ metric has been peculiarly immune to advances in our understanding of thinking and behavior. Despite significant transformations in our theories of cognition, learning, and problem solving, the conceptual base of the intelligence test has remained unaltered (Getzels & Jackson, 1962, pp. 2-3).

Just as "genius" was supplanted by the term "gifted," "gifted" has been challenged by "creativity." A gifted person--at any age--is no longer thought of exclusively as having a high intelligence quotient. A person may be gifted, or creative, in any capacity. J. P. Guilford is credited with initiating the shift in research from giftedness to creativity with his presidential address on creativity at the American Psychological Association in 1950.

This address was directed toward disputing Terman's conceptual and methodological assumptions concerning giftedness (Getzels, 1976, p. 326).

Guilford is noted for his trait-factorial approach to creativity. Using factor analytic techniques, he and his associates at the Psychological Laboratory at the University of Southern California identified 120 factors of intellectual ability and developed marker tests for many of them. Guilford has embodied these factors in a three-dimensional theoretical model of intelligence called the structure of intellect (SI). (See Figure 2.) Inherent in this model is Guilford's assumption that intelligence is not a single, monolithic factor, but thqt many primary and independent intellectual factors, some unmeasured by IQ tests, make up the domain of human intellectual ability (Taylor, 1975, p. 9).

Guilford has contributed two important hypotheses concerning creativity: that creativity may involve processes different from intelligence and that creativity is a multi-dimensional variable. He and his associates hold that creative talents are largely outside the realm of intelligence as it is ordinarily measured and that they are widely distributed in different degrees throughout the population; that is, not confined to a few gifted individuals (Taylor, 1975, pp. 9-10). Guilford's work had a profound effect on the amount of research concerning creativity, which has been conducted in the second half of the century.

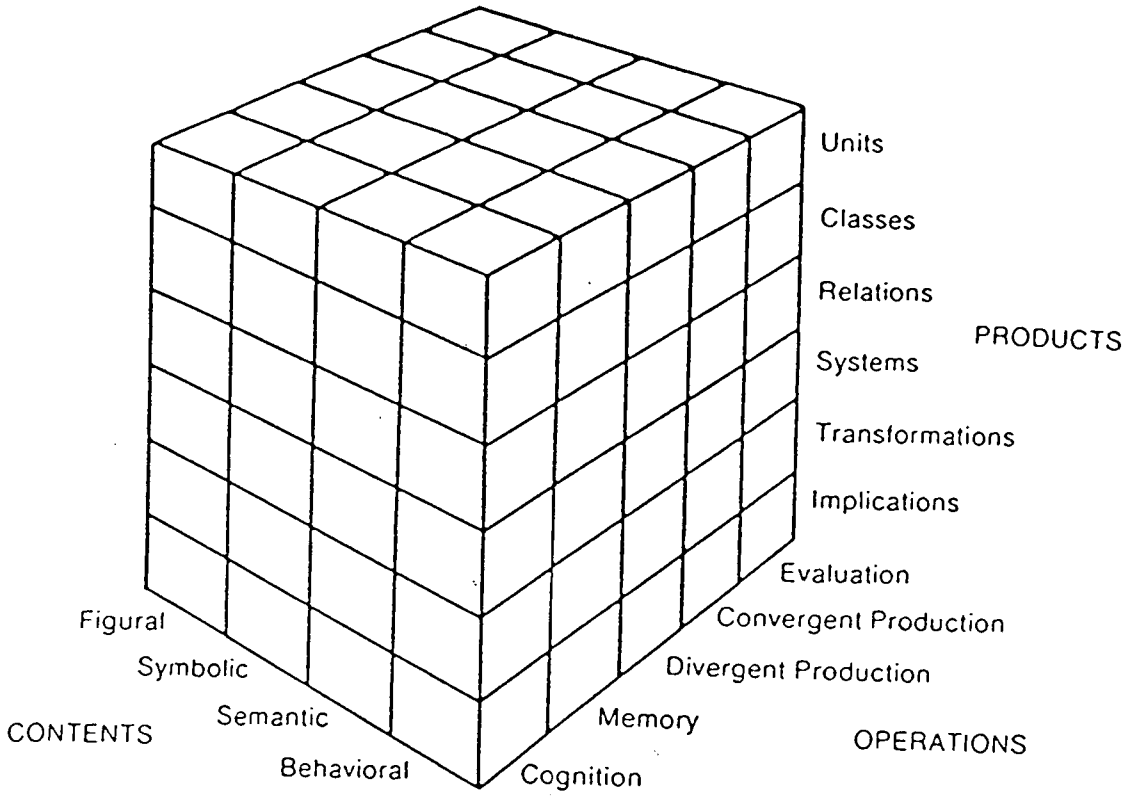


Figure 2. Structure of Intellect Model (Guilford, 1959).

One of the most influential studies concerning creativity and intelligence was conducted by Getzels and Jackson. The American Association for Gifted Children had argued that qualities other than IQ be included in the conception of giftedness, and defined the gifted individual as:

> A person whose performance in any line of socially useful endeavor which is consistently superior. This definition includes those talented in art, music, drama, and mathematics, as well as those who possess mechanical and social skills and those with high abstract verbal intelligence (Getzels & Jackson, 1962, p. 8).

In order to dispute the use of the IQ metric as the predominant and often exclusive criterion of giftedness, Getzels and Jackson identified the following groups of students:

1. Two groups of students each exhibiting as its salient characteristic a different type of cognitive excellence--the one high in intelligence but not concomitantly high in creativity, the other high in creativity but not concomitantly high in intelligence, and

2. Two groups of students each exhibiting as its salient characteristic a different type of psychosocial excellence--the one high in morality but not concomitantly high in psychological adjustment, the other high in psychological adjustment but not concomitantly high in morality (Getzels & Jackson, 1962, p. 11).

The students were placed in one of these groups based on their scores achieved on intelligence tests and creativity tests. The creativity tests consisted of the following measures: word association, uses for things, hidden shapes, fables, and make-up problems.

One of the many interesting findings of the Getzels and Jackson study revealed that while a certain amount of intelligence

is required for creativity, the two are by no means synonymous. When referring to the learning styles of the two groups, Getzels and Jackson stated: one focuses on what is already discovered, the other focuses on what has yet to be known (Getzels & Jackson, 1962, p. 60). Paul Torrance conducted research which replicated these two aspects of Getzels' and Jackson's study. Torrance used eight different samples, including a selective school similar to the one chosen by Getzels and Jackson, four elementary schools including a parochial school and a rural school, a public high school, and two samples of graduate students. In six of the schools, he found the same results as Getzels and Jackson: despite sizable differences in IQ, the two groups were equally superior in achievement to the population from which they were drawn. Only in the parochial school and the rural school were there contrary findings (Torrance, 1959, p. 66).

After several years of basic research, Torrance selected and developed tests, or activities, for determining creative thinking. These are the Torrance Tests for Creative Thinking (TTCT). According to Torrance, developing creativity is important from the standpoint of personality development and mental health to improve the effectiveness in the acquisition of information and to apply knowledge to daily personal and professional problems. In Guiding Creative Talent, Torrance stated:

> Certainly we cannot say that one is fully functioning mentally, if the abilities involved in creative thinking remain undeveloped or are paralyzed. These are the

> abilities involved in becoming aware of problems, thinking up possible solutions, and testing them. If their functioning is impaired, one's capacity for coping with life's problems is indeed marginal (Torrance, 1962, pp. 3-4).

It has been stated in the literature that creative thinking and problem solving are two significant concerns when teaching and challenging the gifted/talented child. Methods for teaching and facilitating creative behavior rest on the assumption that the process of thinking can be separated from the content of thought so that one can learn a general cognitive strategy outside the confines of a particular structure of knowledge (Getzels, 1976, p. 335). Among the methods cited for teaching, facilitating, or at least liberating thinking were: "brainstorming" (Osborn, 1951, 1952), "reinforcement of original behavior" (Mearns, 1958), and "evaluationless classroom atmospheres" (Torrance & Myers, 1970). Even though evidence has been reported for the efficacy of each of these methods, the results are not without challenge. Nevertheless, studies conducted of deliberate methods for facilitating creative behavior have stated that creative ability, as measured by tests, can be increased through instruction (Getzels, 1975, p. 335).

To summarize the historical development, the literature depicts a steady transition in the realm of education for the gifted/talented individual. Plato advocated training only those who exhibited the highest levels of thinking and reasoning to be philosopher-kings and rule the state. For Galton, "genius" referred to an automatic activity of the mind, that is, inspiration,

as distinguished from an effort of the will (I. Taylor, 1975, p. 12). This, Galton believed was inherited. Terman equated "gifted" with having a high IQ. This concept was later challenged by educators and psychologists such as Guilford, whose work with the structure of intellect model virtually opened up the area of research into creativity and its relationship to the gifted/talented child.

Identification of Gifted/Talented Students

One of the most complex aspects of educating the gifted/talented child is the identification of those to be served. The most frequently used means of identification have been IQ scores, achievement test scores, and teacher recommendations. Even though the first of these--the IQ score--was reportedly used more than the other two, the definitions of intelligence were multifarious. Alfred Binet and Theodore Simon summed "intelligence" up in four words: understanding, imagination, purpose, and correction (Binet, 1911, p. 117). Spearman's theory of the "general factor," g, supported the concept of "intelligence" as that basic innate power of the mind, any deficiency in which no efforts of school or church can overcome (Spearman, 1927, pp. 412-414). According to Louis Thurstone, intelligence was made up of the following "primary mental abilities": V-verbal, N-number, S-spatial, M-memory, R-reasoning, W-word fluency, and P-perceptual speed (Thurstone, 1938, p. 11). Edward Thorndike felt that there were three kinds of "intelligence": abstract, mechanical, and social (Thorndike, 1940,

p. 57). Jean Piaget was more concerned with children's mental activity than he was with measuring their levels of "pure intelligence," or comparing one child with another. He stated: "Intelligence is the form of equilibrium toward which all the (cognitive) structures . . . tend" (Piaget, 1950, p. 6). Wechsler referred to "intelligence" as the aggregate or global capacity of the individual to act purposefully, think rationally, and deal effectively with his environment. (Wechsler, 1958, p. 7), and Joy P. Guildford expanded on Thurstone's concept of intelligence to develop the structure of intellect model. This model depicts intelligence as 120 possible combinations (four contents x five processes x six products), each defining a unique mental operation (Guilford, 1959).

Considering the many definitions of intelligence, the difficulty of measuring this trait becomes obvious. In addition to intelligence, creative behavior is generally considered as a criterion used to identify giftedness. For this reason, it has been stated that the best way to identify the gifted, talented, or creative child is to use multiple sources of information. In order to identify a student gifted in mathematics, for instance, the use of tests would be most appropriate. This would first, identify the student with great mathematical reasoning ability, and secondly, enable the teacher to determine what a particular talented student does not yet know and arrange for him or her to learn those points, and those only, fast but well. The SAT-M

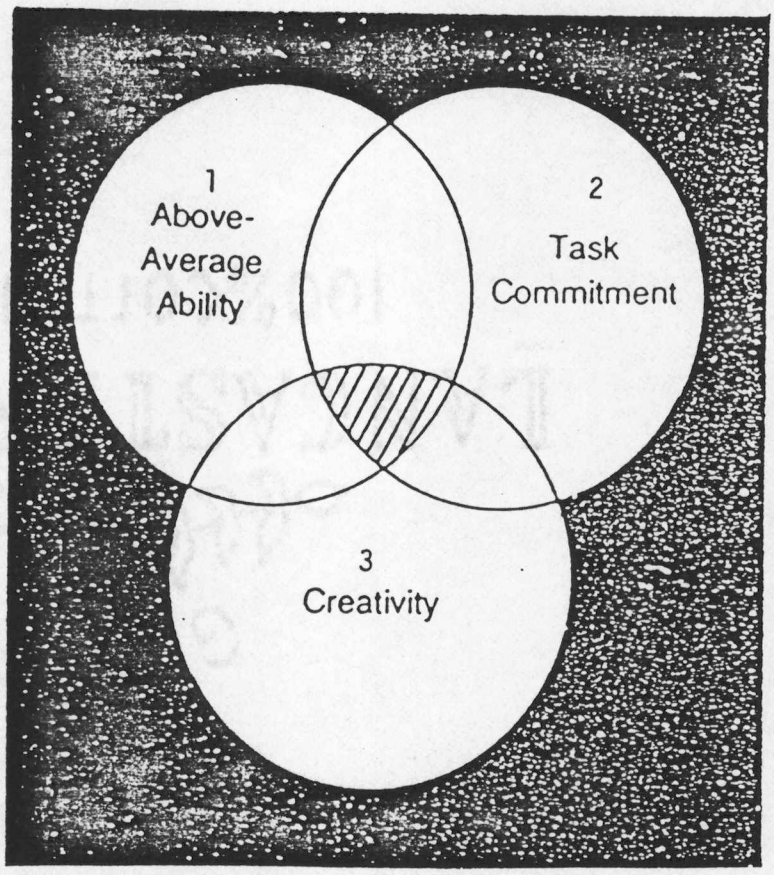
test is often used to identify talent in mathematical reasoning ability, and the SAT-V test is applied to assess verbal reasoning abilities. It has been perceived that these reasoning tests would predict success in later mathematics, at least through advanced calculus and linear algebra, far better than items measuring rote memory and computational speed and accuracy would (Stanley, George, and Solano, 1977, pp. 75-112). An artistic talent, however, would be confirmed by an expert or professional judgement in that area. To further expand the definition of the "gifted and talented" child, the advisory panel for the Federal Commission of Education stated:

> Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:
>
> 1. general intellectual ability,
> 2. specific academic aptitude,
> 3. creative or productive thinking,
> 4. leadership ability,
> 5. visual and performing arts, and
> 6. psychomotor ability.
>
> It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of three to five percent of the school population (U.S. Congress Committee Prints, 1972, p. 2).

The most commonly employed screening processes involve teacher nomination and group tests. Both means have about the same level of accuracy. Both fail to identify large numbers of gifted students. Several studies have shown that individual tests identify gifted children much more accurately than do group measures. All

the results have shown that half of an identified population would have remained unidentified if group tests alone has been used. Teachers are also able to nominate about half of the gifted, and similar levels of accuracy occur when they attempt to identify the creative. As a result, rating scales have been developed that assist the teacher in objectively rating a child (Renzulli, Hartman & Callan, 1971, p. 211). One of these is the Scale for Rating Behavioral Characteristics of Superior Students (SRBCSS) developed by Joseph Renzulli and Robert Hartman. (See Appendix A.) Another instrument which would benefit the teacher is the Teacher Evaluations of Creativity by Paul Torrance. (See Appendix A.)

Joseph Renzulli has proclaimed that giftedness is recognized in expressed behaviors rather than in underlying academic or personality traits (i.e. IQ or achievement test scores) (Delisle & Renzulli, 1982, p. 89). Renzulli is noted for his Revolving Door Identification and Programing Model (RDIM) which represents a significant new approach to selecting students for participation in gifted programs. Renzulli has based this model on a three-ring conception of giftedness (Figure 3). Renzulli has stated that when all three circles are working together--represented by the shaded area--one is then able to see a child who is beginning to display and develop gifted behavior. The RDIM also focuses on the belief that a relatively large proportion of persons manifests gifted behaviors at certain times, in certain areas of study, and under certain circumstances. Consequently, RDIM allows for the cation of children with above average abilities for the purpose of



1. Not ncessarily superior.
2. Energy expended on something of personal interest.
3. Ability to find problem to solve.

(Renzulli, 1981, p. 58)

Figure 3. Ingredients of Giftedness.

providing resource room services at some point in the school year, depending upon expressed student need for enrichment opportunities (Delisle & Renzulli, 1982, p. 90).

Characteristics of Gifted/Talented Students

Several studies have refuted the earlier beliefs about the "mad genius" syndrome of gifted children (U.S. Congress Committee Prints, 1972, p. 15). In Volume 2 of Terman's Genetic Studies of Genius, Catherine Cox Miles listed the following persistent traits as differentiating these individuals from the general child norm:

> Independence of thought, perceptiveness, strength of memory, originality, creativeness, depth of understanding, trustworthiness, conscientiousness, strength of influence on others, persistence, devotion to distant goals, and desire to excel (Miles et al., 1926, p. 72).

The findings of Terman (1919) and Hollingworth (1942), have generally been credited with initiating the understanding and values currently expressed toward gifted/talented students. These children are now regarded as possessing unlimitable capacities to achieve. It should be noted that when reference is made to "gifted/talented," it is directed toward a "group" of individuals who collectively possess traits and characteristics which generally measure higher than their agemates on any scale. Each gifted/talented child, however, exhibits his own personality, preferences, abilities, needs, and limitations. Marland stated that:

> Of all human groups, the gifted and talented are the least likely to form stereotypes. Their traits, interests, capacities, and alternatives present limitless possibilities for expression (U.S. Congress Committee Prints, 1972, p. 16).

Several lists have been comprised of the characteristics, traits, and abilities exhibited by gifted, talented, and creative children. The following examples of these lists are presented in Appendix B.

1. Characteristics of the Gifted Child
2. General Characteristics of Gifted/Talented Children
3. Learning Characteristics of Gifted/Talented Children
4. Behavioral Characteristics
5. Characteristics of the Gifted Child and Concomitant Problems
6. Characteristics of Academically Talented Students
7. Creative Characteristics
8. Traits Common in Highly Creative Students
9. Leadership Skills

Teachers of Gifted/Talented Students

Research has repeatedly shown that the most important variable in a classroom is the teacher, and that the success of any educational approach is dependent upon his/her effectiveness. Maker has separated the characteristics of teachers into three categories (see Figure 4). Philosophical and professional traits can be influenced, and even changed, through training and acquiring new

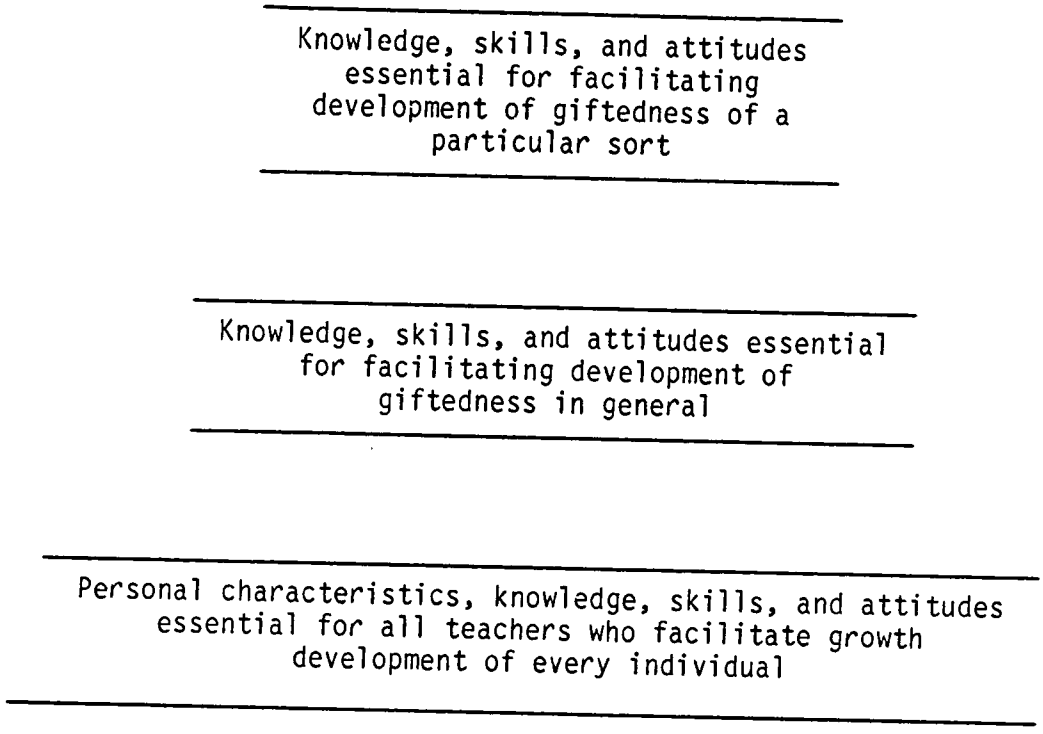


Figure 4. Layers of Qualifications for Teaching the Gifted and Talented. (Maker, 1982)

skills. The personal traits, such as intelligence, motivation, self-confidence, and enthusiasm, however, are not changed easily--if at all (Maker, 1982, p. 133). Personality is often considered to be innate, in the same manner in which Galton viewed eminence and Terman regarded genius or giftedness. The statements concerning the teachers of the gifted seem to be summarized best by Milton J. Gold: "Since the good teacher in general must be a paragon of pedologic virtues, the teacher prescribed for gifted . . . turns out to be a paragon of paragons" (Gold, 1966, pp. 414-415).

This statement is aptly exemplified by the following list of personal characteristics and teaching behaviors stated to be needed by those working with the gifted:

I. Personal Characteristics

- A. Understands, accepts, respects, trusts, and likes self; has outstanding ego strength.
- B. Is sensitive to others, less concerned with self; supports, respects, trusts others.
- C. Is above average intellectually; exhibits an intellectual style of conceptualizing, generalizaling, creating, initiating, relating, organizing, imagining.
- D. Is flexible, open to new ideas.
- E. Has intellectual interests, literary and cultural.
- F. Desires to learn, increase knowledge; has high achievement needs.
- G. Is enthusiastic.
- H. Is intuitive, perceptive.
- J. Is committed to excellence.
- K. Feels responsible for own behavior and consequences.

II. Personal-Professional Predispositions

- A. To guide rather than to coerce or pressure.
- B. To be democratic rather than autocratic.
- C. To focus on process as well as product.
- D. To be innovative and experimental rather than conforming.

E. To use problem-solving procedures rather than jump to unfounded conclusions.
F. To seek involvement of others in discovery rather than give out answers.

III. Teaching Behaviors

A. Develops a flexible, individualized program.
B. Creates a warm, safe, and permissive atmosphere.
C. Provides feedback.
D. Uses varied strategies.
E. Respects personal self-images and enhances positive ones; respects personal values.
F. Respects creativity and imagination.
G. Stimulates higher--order mental processes.
H. Respects individuality and personal integrity. (Lindsey, 1980, pp. 13-14).

Renzulli has warned, however, that the identification of desirable "characteristics" of the teacher for the gifted is of no practical value. He states that such lists are always general and highly idealistic, and that these characteristics should be appropriate for teachers of all children, not just the gifted. He speaks of promoting certain teaching behaviors rather than the identification of teacher characteristics (Renzulli, 1985, p. 25).

These behaviors would be the expression of specific skills that enable the teacher to guide gifted students through individual and small group investigative and creative experiences. A list of these skills is shown below:

1. Analysis of individual interests, abilities, and learning styles.
2. Organization and implementation of specific activities designed to stimulate a wide variety of new interests among students.
3. Guidance in the processes of problem finding and problem focusing.

4. Systematic strategies for making appropriate modifications in the regular curriculum, which include elimination of additional work on skills already mastered, the opportunity to work at one's own pace, and appropriate subject matter acceleration.
5. Assistance in the identification of methodological (research skills) resource materials.
6. Assistance in the identification and appropriate use of advanced level and diverse reference materials and resource persons.
7. Procedures for providing students with appropriate feedback and guidance in the revision of creative products and the general escalation of early drafts of scientific, literary, or artistic endeavors.
8. Assistance in the exploration of various formats and modes of communication for the production of student endeavors.
9. Assistance in the identification of appropriate outlets and audiences for student work (S. M. Reis & M. V. Cellerino, 1983).

Although most professionals would agree that teaching gifted and talented students unquestionably requires special competencies, training, and commitment, only approximately one third of the states have developed special teacher certification regulations governing this area of special education. The reasons advanced by most states for not creating a special certificate relate to the recognition that those qualities of a successful teacher are not amendable to regulation and that the roles of teachers vary from one local program to another (Renzulli, 1985, pp. 24, 27).

A partial study of programs offered for teachers of the gifted and talented in colleges and universities in the southern states was conducted in 1977. This study revealed that in ten schools there was either no information received or there were no courses, degrees, or certification indicated. There were 36 colleges or universities which offered courses, but no degree or certification

programs, while there were only 14 schools which offered certification programs. The survey also reported that only four schools offered undergraduate degrees, while there were 47 colleges and universities which offered Master's degrees in the area of education for the gifted/talented student. There was a total of 23 schools from which a person could earn either a Specialist's or Doctoral degree in this area (Bruch, et al., 1977, p. 36).

Due to the shortage of degree programs and specific courses for teachers of gifted/talented students, two other viable alternatives for meeting training needs in this area of special education are workshops and seminars (Lindsey, 1980, p. 7). There is hope that since recent reports point to a critical shortage of specifically trained teachers and that since more interest and concern for the gifted is being generated, more comprehensive programs will be developed to train and assist these teachers.

Grouping

The literature revealed that grouping has always been an integral part of education. Even Plato advocated placing students into one of three groups, as determined by their innate abilities. Each student, then, would be trained in the best way possible for him to serve the state (Ozmon and Craver, 1981, p. 6). Students have routinely been grouped according to age and/or ability. In programs for academically gifted/talented students, grouping should be utilized on an individualized basis, to form homogeneous classes,

or even to develop schools for these students (Havighurst, Stiver, & DeHaan, 1955, p. 22).

Arguments are offered both for and against grouping gifted/talented students. Concern is expressed that separating these students from their classmates tends to make them feel superior and develop an elitist attitude. This, it is argued, in undemocratic. The rebuttal to this, is that all the students recognize who is gifted or talented anyway, and by grouping these students in special classes, they will experience more competition from each other and be less likely to feel superior than if left in a regular classroom (Laycock, 1979, p. 124). The undemocratic plea is answered by pointing out that students in clubs, bands, remedial programs, and especially on athletic teams are grouped and given special time and opportunities to develop their talents. It is felt then, by some, that grouping academically gifted/talented students is the most democratic method of education for them. In these classes, it is believed, the chances are increased for gifted/talented students to realize and develop their potential to fruition. The practice of grouping identified students remains useful in both of the most common types of gifted/talented programs, which are acceleration and enrichment.

Acceleration

Acceleration is referred to as any administrative practice designed to move the student through school more rapidly than

usual. Acceleration includes such practices as early admission, grade skipping, advanced placement, telescoping of grade levels, or credit by examination (Barbe, 1965, p. 49). One of the earliest advocates of acceleration was Lewis Terman. He strongly urged that gifted students be promoted sufficiently to allow them to enter college at age seventeen at the latest, and he claimed that many were ready at sixteen (Terman, 1919, p. 88). The arguments for acceleration include: motivation and challenge for the student, decrease in boredom and possible behavior problems, a minimum amount of disruption to the overall school scheduling, and allowance for the student to enter a professional career sooner and realize satisfaction through a greater sense of responsibility and leadership. Others disagree with this statement. One of the basic premises upon which opponents of acceleration base their argument is that placing the mentally gifted child with older children (at any age level) may cause problems with social and emotional adjustment. The statement is often heard, "Children should enjoy childhood and not be forced to grow up too quickly" (Laycock, 1979, p. 188). Acceleration should be prescribed on an individual basis after each student has been evaluated in regard to mental, physical, and emotional development and level of maturity.

Enrichment

Enrichment is a program designed to provide practices which are intended to increase the depth or breadth of the gifted

student's learning experiences. Enrichment may include special assignments, independent study, individual projects, small group work, and other adaptations of routine school processes (Barbe, 1965, p. 50).

If implemented correctly, enrichment offers many advantages to the student. Enrichment enables the academically gifted/talented child to remain with his/her peers in regard to chronological age and physical and emotional development, while he is allowed, even encouraged, to pursue special interests, develop independence, think critically and creatively, and enhance his/her self-concept and leadership qualities. The actual implementation of enrichment into a school's curriculum, however, often leaves much to be desired. One of its most common criticisms is that the extra responsibilities of enrichment often place an intolerable burden on already overloaded classroom teachers (Havighurst, Stivers & DeHaan, 1955, p. 21). As a result of this, what is often labeled enrichment is simply busywork and used to keep the gifted child occupied in order to free the teacher for regular activities.

Each enrichment activity should be chosen as one of several component parts which comprise the total program. Joseph Renzulli has stated that without actually altering the curriculum as a whole, enrichment is little more than patchwork collections of random practices and activities (Renzulli, 1982, p. 148). Most of the criticisms directed toward this type program can be summarized in the thought: "There is no doubt about it. There can be quite a

distance between good intentions and enrichment" (Laycock, 1979, p. 137). Even though credence can be given to the criticisms of enrichment, the possible advantages of this theory cannot be diminished. The following points have been listed which represent the foundation for any enrichment program, regardless of complexity or focus:

1. There should be emphasis on creative and experimental activities
2. Emphasis on developing skills of investigating and learning
3. Independent work, involving initiative and originality
4. High standards of accomplishment
5. Opportunities for leadership and social adjustment
6. Individual attention from a teacher
7. First-hand experiences
8. Flexibility of organization and procedure
9. Extensive reading
10. Concern with community responsibility (Havighurst, Stivers, & DeHaan, 1955, p. 18).

When implemented effectively, enrichment does allow the student to study more intensively and to acquire knowledge and skills more nearly commensurate with his (gifts) so that, in the end . . . the content of his education will be literally enriched (Laycock, 1979, pp. 137-138).

Regardless of the format chosen--acceleration or enrichment--as the basis of a program for the gifted, the content and method of presentation are very important. There are several teaching/learning models that offer assistance in this area.

Learning Models for Gifted/Talented Students

In order to be effective in any facet of education, a great deal of planning must occur. This is especially true when preparing to teach, or guide, the gifted/talented student. There are several plans or models, that have been termed beneficial when preparing a curriculum or any educational opportunity. Some of these are:

Benjamin Bloom and David Krathwohl: Taxonomies of Cognitive and Affective Educational Objectives

The purpose of these taxonomies is to provide a set of criteria that can be used to classify educational objectives according to the level of complexity of the thinking required. They provide a simple, somewhat easy-to-learn structure for developing teaching-learning activities that take students through a sequential process in the development of a concept or learning of relationships. If the major assumption of the taxonomies is valid--that each higher level includes and depends on the behaviors below--students who have been systematically led through the process should be able to think, reason, or behave more effectively at the higher levels.

1. Benajmin Bloom: Taxonomy of Cognitive Educational Objectives:
   a. Knowledge--recall
   b. Comprehension--understanding of knowledge
   c. Application--practical application of knowledge
   d. Analysis--studying the individual parts
   e. Synthesis--fitting parts together to form whole idea
   f. Evaluation--critical thinking

2. David Krathwohl: Taxonomy of Affective Educational Objectives:
   a. Receiving--becoming aware of an idea
   b. Responding--reacting to idea or value
   c. Valuing--beginning to personally hold the value
   d. Organization--fitting value together with other personal attitudes in which one believes
   e. Characterization--value has become internalized, and person has recognized philosophy of life (Bloom et al., 1964).

Jerome Bruner: The Basic Structure of a Discipline

Bruner's model (Bruner, 1961) has been considered to be more philosophical than some of the other models. This is not a framework, but rather, it is a way of approaching the development of a framework. Most of Bruner's ideas are based on the assumptions that intellectual activity, anywhere, is the same and the difference is in degree, not in kind. His model supports the belief that the aim of education should be to teach the basic structure of academic disciplines in such a way that this structure can be understood by children. This means that the individual not only has learned a specific thing, but also has learned a model for understanding other things like it that may be encountered. Based on what is known from the available research, the basic structure approach, combined with teaching methods emphasizing inquiry and discovery, rather than didactic ones, can be highly successful with gifted/talented students.

J. P. Guilford: The Structure of Intellect (SI)

Guilford's theory of the structure of human intelligence has been stated to have had a greater influence on the field of

education of the gifted than has any other theory or model. Prior to his work, the concept of giftedness was almost synonymous with IQ, but after his ideas spread into the educational community, the multifaceted, or multidimensional, conception of giftedness began to form the basis for programs. Guilford's work is credited with recognizing creativity as an area of giftedness. The structure of intellect model, which depicts human intelligence as consisting of three faces or dimensions, is shown in Figure 2, page 31.

Joseph S. Renzulli: The Enrichment Triad

Renzulli's Enrichment Triad Model has been designed to provide qualitatively different learning experiences for gifted students. It provides for moving the student through awareness, the learning of process, and the development of a product using three different, but interrelated types of learning activities. This model is shown in Figure 5.

Types I and II enrichment are recommended for all students, while Type III is considered the most important for gifted learners. Type III enrichment consists of activities in which the student becomes an actual investigator of a real problem or topic. Renzulli believes that a student must possess three basic characteristics--(1) above-average intelligence, (2) above-average creativity, and (3) task commitment (motivation-persistance) to fully benefit from his model. According to Renzulli, superior performance results when there is a definite interaction among these three characteristics and gifted behavior is exhibited.

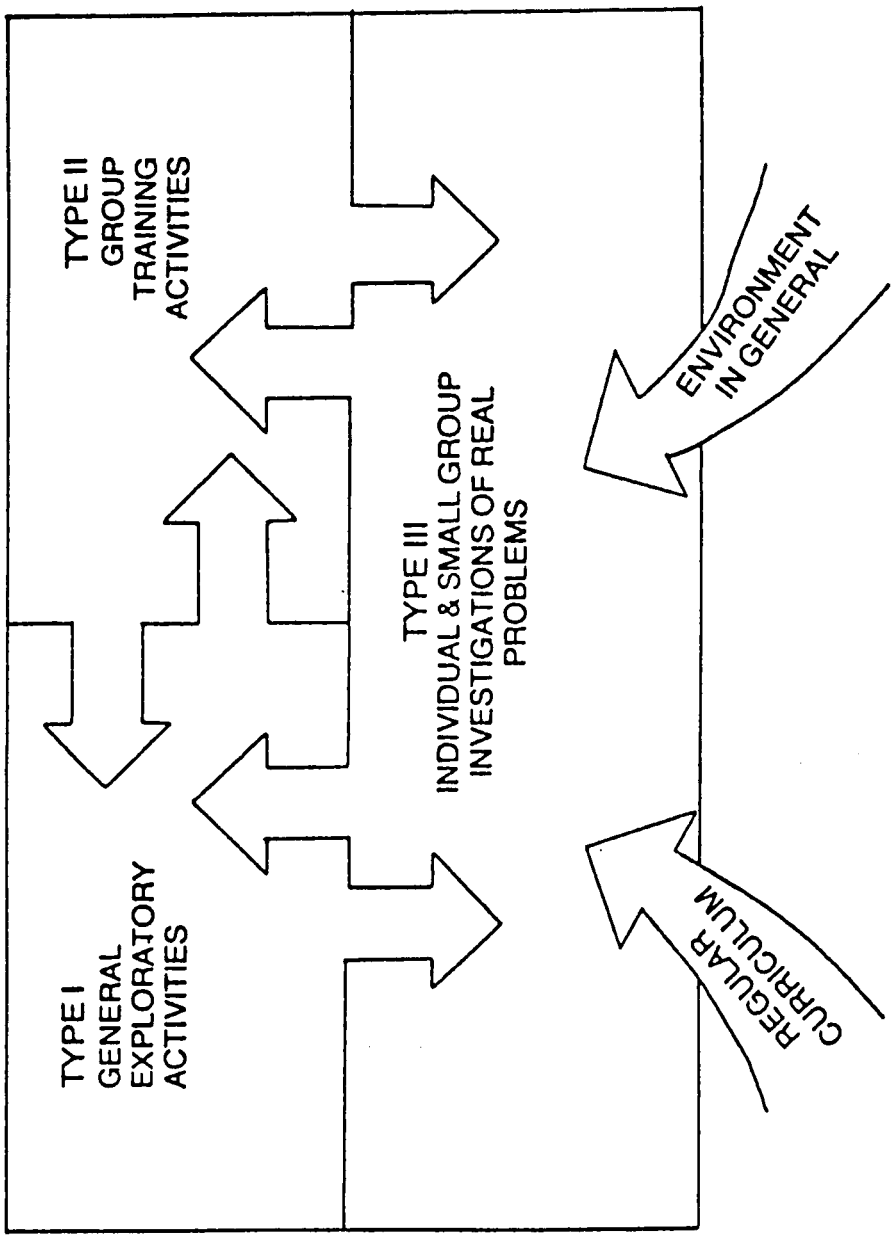


Figure 5. The Enrichment Triad Model (Renzulli, 1976).

Sidney J. Parnes: Creative Problem Solving

Parnes's Creative Problem Solving Model is widely used in programs for gifted students. It provides a structured method of approaching problems in an imaginative way. There are five steps of the process: fact finding, problem finding, idea finding, solution finding, and acceptance finding. The purposes of Parnes's model are twofold: (1) to provide a sequential process that will enable an individual to work from a mess to arrive at a creative, innovative, or effective solution; and (2) to enhance the person's overall creative behavior (Parnes, 1977).

Hilda Taba: Teaching Strategies Programs

This consists of strategies that are structured, generic methods in which the teacher leads students through a series of sequential, intellectual tasks by asking them open-ended but focused questions. The four strategies are:

a. concept development,

b. interpretation of data,

c. application of generalization, and

d. resolution of conflict.

The Taba model suggests modifications of the regular curriculum that are appropriate for the gifted in each of these areas (Taba, 1966).

Donald J. Treffinger: Self-Directed Learning

Treffinger's model provides the structure needed to gradually develop in students the skills necessary to become self-directed

learners. In fact, it is a model for moving both teacher and student toward a setting in which self-directed learning can occur.

There are four areas of instruction in Treffinger's model. These are:

1. identifying goals and objectives,
2. assessing entering behavior,
3. implementing instruction,
4. evaluating performance.

Within each of these areas, there are four levels that move from teacher-directed to self-directed learning (Treffinger, 1975).

While some of these models serve as the sole basis of programs for the gifted/talented student, most programs are developed by combining ideas and methods from several sources.

Programs for Gifted/Talented Students

> Gifted children are first of all children. They pass through the steps of growth; they need to acquire the attitudes and skills required by society; they have human needs for affection and security and growing independence as do other children. Growth principals, social demands, human needs--all must be taken into account in the planning of a school program if gifted children are to be encouraged and assisted to achieve their maximum potential (Sumption & Luecking, 1960, pp. 336-337).

Any program for gifted/talented students should be developed on this premise. Research findings have shown that special programs developed for gifted/talented students do make a difference. Conclusions derived from several studies generally agreed that the participants did not develop personality or social problems, did

not become conceited, or did not suffer health problems because of pressures; rather, the students showed improvement, not only in the academic areas, but also in personal and social areas (Martinson, 1971, p. A47).

Prior to the planning of a program for gifted/talented students, consideration should be given to assumptions which justify special education for the gifted. Five of these assumptions are:

1. Gifted children as a group differ from others in learning ability; they learn faster and remember more, and they tend to think more deeply with and about what they learn.
2. As adults, gifted persons tend to remain similarly advanced beyond the average and tend to assume distinctive social roles as leaders in the reconstruction and advancement of whatever lines of activity in which they engage.
3. The regular school curriculum only barely approximates the demands of either the greater learning capacity or the anticipated social roles of gifted persons.
4. An educational program can be designed which does more adequately meet these basic demands, and which on the whole, being uniquely suited to the gifted, is both unnecessary for, and impossible of accomplishment by students of lesser ability.
5. Differentiated educational provisions for the gifted promise to discover more gifted persons, to improve their education, and to launch them earlier into their chosen careers so that society, as well as the persons themselves, may enjoy longer the fruits of their productive and creative labors (Taylor, 1962, p. 22).

The initial phase of program development should be to write a statement of philosophy to guide everyone's efforts. If a district and/or school philosophy already exists, it should be examined carefully and modified or expanded if necessary. Maker states that a philosophy statement should address two general areas: (1) the <u>purpose</u> of education for the gifted and of this

program, which should be developed and written in specific goals and objectives for each program, (2) the particular educational approaches that should be used in a particular program for the gifted (Maker, 1982, p. 149).

The first area, purpose, should address the issue of whether the program will prepare the gifted/talented child to deal with his own individual needs or with the demands imposed on him by society. It seems logical that someone who is well adjusted within himself, is able to contribute more significantly in the public or societal realm of accomplishments. Passow relates this concept well in the following statement:

> Regardless of their specific interests or degree of talent, all gifted students need to acquire the skills, knowledge, and attitudes which will enable them to achieve the following objectives:
>
> 1. To deal competently with themselves, their fellow man, and the world about them as human beings, citizens, parents, and the participants in the "good life";
> 2. To build a sound liberal foundation to sustain the vigorous development of specialized competencies at the higher levels they can handle;
> 3. To foster self-direction, independence, a love of learning, and a desire to create and experiment with ideas and things;
> 4. To provide the self-understanding, inner consistency, and ethical standards to see their own uniqueness in terms of responsibility to themselves and society, and
> 5. To stimulate critical thinking and a scientific approach to solving their persistent problems.
>
> He concludes by saying, "While these same objectives are desirable for all students, they are essential for the gifted if they are to achieve maximum self-realization and to implement their potential leadership" (Passow, 1958, p. 194).

The second phase of a philosophy statement, approaches, should address the question of the division of responsibilities between the regular curriculum and the special program. The regular school curriculum should be modified to meet the special needs of each gifted/talented child. Curriculum is defined as a course of study. This includes both the content to be taught and the processes which facilitate learning. The curriculum of a program designed to challenge and nurture gifted/talented children has often been termed qualitatively different. The following statements refer to this type curriculum:

> The most basic principle underlying curriculum development for the gifted is that the experiences for these children be qualitatively different from the basic program provided for all children (Maker, 1982, p. 3).

> Curriculum for the gifted and talented can only be marked as such if it encompasses elements which distinguish it from being suitable for the education of all children. Curriculum for gifted students must be congruent with the characteristics that identify them as a distinct population (Kaplan, 1973, p. 100).

> All the units of the curriculum intended to pertain to gifted youth must involve those higher powers of mind which bring bright and talented children to attention in the first place, and must be of such nature that they promote the child's natural capacities for judgement, critical analysis, and creative reconstruction of things as they now exist. Unless a school can point to such clearly identifiable provisions, and indicate how these provisions implement and validate the process goals or particularized objectives also on record, it is quite likely that nothing predominantly pertinent to the gifted exists, and that, rather, old merchandise has simply and unfairly been given new tags (Ward, 1962, p. 30).

> Like searches for the fountain of youth and the pot of gold at the end of the rainbow, this quest for the meaning of qualitative differentiation has largely eluded us (Renzulli, 1982, p. 147).

The following guidelines should prove beneficial in the development of a qualitatively different curriculum for gifted/talented students:

1. Provide academically sound open-ended, seamless curriculum responsive to individual student achievement level, capabilities, talents, concerns, interests, and aspirations.
2. Provide content broad enough and rich enough to match the divergently-faceted spectrum of the gifted student's abilities.
3. Provide content of significance, satisfaction and challenge--the antithesis of "busy work" and "fun and games."
4. Provide learning experiences at the higher levels of the cognitive domain: knowledge, comprehension, application, analysis, synthesis, and evaluation.
5. Provide learning experiences that translate the affective domain into thought and action: receiving, responding, valuing, organization, and characterization by a value or value complex.
6. Provide learning experiences that both evoke and nurture creativity, and also encourage the risk-taking of adventurous thinking.
7. Provide learning experiences that introduce, reinforce, and extend thinking-learning--communicating skills as integral components of the total teaching-learning program (Clendening & Davies, 1983, pp. 5-6).

It should be noted that the literature has pointed out that it is imperative for curriculum designers to understand the difference between programs and provisions. "Provisions" are fragmentary, unarticulated, and temporary activities for the gifted, which are neither followed up in any meaningful way nor preceded by any lead-in activity; but are founded, instead, upon the cultural interests of the particular teacher who happens to be working with a particular class at a particular time. These provisions disappear with a shift in personnel. A "program," on the other hand, is

considered a sine qua non of educational life and has a prominent place in any education curriculum (Morgan, 1980, p. 2).

Numerous models which specifically address the characteristics of gifted/talented students are available to assist in program development. A conceptual model provides consistency and organization in instructional planning and implementation, a framework for making educational decisions, a vehicle for communicating the program design to others, and well-defined parameters by which program goals can be evaluated (Karnes, 1983, p. 103). Models frequently cited to be appropriate for teaching gifted/talented learners include: The Multiple Talent Approach (Taylor, 1967, 1968), The Unit Approach (Kaplan, 1973), The Triad Enrichment Model (Renzulli, 1976), and The Open-Classroom Model (Karnes, 1983). No data available thus far support one model as superior in meeting the needs of gifted/talented students. Rather, selection of a model should be based on its consistency with the program's philosophy and goals and with the characteristics of the population to be served (Kitano & Kirby, 1986).

Any program should create a climate that enhances the education of the gifted. Hoback and Perry have stated that a good program for the gifted:

1. Provides flexibility to do independent work and the opportunity to develop self-discipline. Regimentation stultifies many gifted children.

2. Provides flexibility in timing. Rigid regimentation by the clock and calendar often hinders opportunities for the gifted who will need to spend more time on some tasks and will finish others in far less time than average students.

3. Is not location bound. Many of the best opportunities exist outside the walls of the school building.

4. Recognizes that a curriculum design of totally delineated courses and units does not fit the needs of the gifted who need open-ended curricula which encourage exploration and innovation.

These and other recommended components have been identified in several educational programs developed for gifted/talented children. A review of some of these programs is given in Appendix C.

Summary

Chapter 2 has presented a review of the development of educational research and learning opportunities concerning the gifted/talented student as it is cited in the literature. Each area addressed in this chapter revealed the following:

Historical Development

It has always been acknowledged that certain individuals exhibit the ability to think and reason on a level which is superior to their agemates. Plato was cited as an advocate of identifying, segregrating, and educating these children to be leaders of the state. Sir Francis Galton attempted to reveal that this trait not only existed--but that it was inherited--by tracing the lineage of several prominent families in England. Alfred Binet was credited with developing the first tests which would measure the mental age of a child. This Simon-Binet test was initially used to screen mentally retarded students from the Parisian school

system. Lewis Terman revised these tests so that they identify the intelligence quotient of all students, especially those on the upper end of the scale--the mentally gifted.

Terman and Hollingworth were consistently cited in the literature as using the I.Q. test to identify students, and then conducting longitudinal studies of these students to determine what particular characteristics they possessed and what accomplishments they achieved as adults. The results of these studies revealed that the majority of the students identified as mentally gifted were also found to be superior in areas such as physical development, athletics, and possessing positive personality traits.

Terman has been credited with equating a high I.Q. with being gifted. In the second half of this century, however, this notion has been seriously challenged. Guilford introduced the idea, in 1950, that a person might be gifted in several areas other than academics, with his presentation of the model of the structure of intellect. Paul Torrance contributed a greal deal through his studies and writings concerning creativity. Getzels and Jackson conducted extensive research and found that the percentage of students identified as creative that did not qualify as gifted according to their I.Q. score, but who consistently received high grades and excelled in extracurricular activities, was equivalent to the percentage of high achievers who did qualify as gifted when judged solely on the I.Q. score. From this, then, it has been argued that a high I.Q. is an indicator, not a guarantee, of success

and achievement. This research confirmed the belief that a person's success and accomplishments are determined, to a great deal, by many other factors such as initiative, a positive self-image, encouragement, and both internal and external expectations experienced by someone.

Identification of Gifted/Talented Students

The general concensus obtained from the review of literature was that many instruments were needed to identify students in many areas in which they may be gifted and/or talented.

Characteristics of Gifted/Talented Students

As stated earlier, several studies such as those conducted by Terman and Hollingworth disputed very early negative connotations of mentally superior children, and depicted them as possessing and exhibiting positive and desired personality traits.

Teachers of the Gifted/Talented Students

Several aspects of the teacher best suited to teach the gifted/talented students were addressed in the literature. One author stated that this teacher was expected to be a paragon of pedologic paragons. While most educators agreed on the desirable qualities of persons chosen to teach gifted/talented students, it was pointed out in the literature that there was a shortage of courses and programs especially designed to train teachers for this task.

Grouping

The arguments both for and against grouping gifted/talented students were presented. The practice of grouping was utilized by Plato, and is still prevalent today.

Acceleration

This is a program designed to move a student through school more rapidly than usual. Terman was one of the first to advocate this practice, and it is still recommended on an individual basis for certain gifted/talented students.

Enrichment

Enrichment is designed to provide practices intended to increase the depth or breadth of the gifted child's learning experiences. When implemented correctly, enrichment has proved to be very beneficial to gifted/talented students. Joseph Renzulli's Triad Model offers a manageable program that is arranged to enhance the education of all students, especially those gifted in one or more areas.

Learning Models for Gifted/Talented Students

The learning models described in this topic are those presented by: Benjamin Bloom, David Krathwohl, Jerome Bruner, J. P. Guilford, Joseph S. Renzulli, Sidney J. Parnes, Hilda Taba, and Donald J. Treffinger. The concepts of each of these models are applicable to developing the curriculum for gifted/talented

students. Many programs have been designed from the eclectic approach of combining ideas from two or more of these, and other, educational models.

Programs for Gifted/Talented Students

The basic needs of gifted/talented learners were stated in the literature and the steps that should be taken to form programs that serve these students were listed. Some of the aspects of a good program for gifted/talented students were also presented.

The researcher used the information gained from the review of the literature to design a survey of three programs developed for academically gifted/talented students. Chapter 3 will be concerned with the methods used to conduct the survey.

CHAPTER 3

METHODS OF STUDY

Introduction

The purpose of this study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. Specifically, the questions addressed in this study were:

1. What areas of concern are identifiable in regard to programs for gifted/talented students?
2. What criteria should be met in the development and/or assessment of an effective program for gifted/talented students?
3. By what means could these criteria be used to determine the relative value and quality of any program for gifted/talented students?

In order to achieve the purpose of this study, first, a review of the literature concerned with the research and education of gifted/talented students was conducted. This review revealed that certain topics regarding programs for gifted/talented students were consistently emphasized throughout the literature. These topics were: written goals and objectives, identification of students, teaching strategies, content taught, qualifications of teachers, and evaluation procedures of programs. The researcher, then, identified these topics as areas of concern in the development and/or assessment of programs for gifted/talented students.

In the second phase of the study, the researcher surveyed three programs for gifted/talented students. The purpose of this survey was to ascertain if the areas of concern identified from the literature, were also perceived to be areas of concern by persons involved in actual programs for the gifted/talented students. If the data from the survey were found to support the literature, the researcher reasoned that this would warrant the development of a qualitative criterion which would address each area of concern.

These criteria, then, would be used as the framework of an instrument which would serve as a guide in the development of and/or assessment of an effective program for gifted/talented students. This instrument, a qualitative criterion-based rating scale, would be evaluated for construct and content validity by educators experienced in educating gifted/talented students, and revisions would be made by the researcher. This rating scale should provide a standard by which the relative quality and value of any program for gifted/talented students could be determined.

Chapter 3 describes the subjects and procedures of the survey conducted in this study.

Subjects

Ths subjects in this study were the administrators, teachers, parents, and students involved in three programs designed for

academically gifted/talented students in elementary school. The schools were located in three different districts in East Tennessee. These particular programs were chosen for a number of reasons. The first of these was geographic proximity, which was simply a pragmatic factor enabling the researcher to have more frequent contact with the programs. Secondly, each of these programs was developed exclusively for students in elementary school. This factor related not only to the researcher's personal interest, but also to the fact that these programs dealt with educating the gifted/talented students from a relatively early point in their education. Another reason was that the stated goals of the programs were similar, while the organizational structures were different. Finally, the concept of enrichment was the basis of development for each of the programs.

Program A

Program A was a pull-out program in a single ementary school--K-5. It was stated by the administrator that this program was needed because 10-15% of the students in this school were identified as demonstrating above-average ability by scoring in the 90th+ percentile (total battery) as measured by the California Achievement Tests, and/or by attaining an I. Q. score of 125 or higher, and/or by receiving teacher recommendation.

It was reported by the administrator that the classroom teachers and support personnel of the school had become increasingly

aware of the lack of programs which systematically met the needs of this 10-15% of the school population. The teachers expressed frustration over a lack of time, materials, and knowledge to meet the individual needs of this group, and stated that, in their opinion, these students were being neglected, lacked stimulation, and were in many cases losing interest in academic and creative pursuits because they were not being challenged. Many parents had also expressed a concern in, and volunteered their services for developing and implementing a program for these academically gifted/talented students.

The subjects of this program were the administrator, one librarian, one resource teacher, eight classroom teachers, and 56 students. The librarian and teachers, identified as direct staff participants, were responsible for developing the units which they were to teach. The administrator stated that the goals of Program A had been developed and written.

Wednesday afternoons were reserved for the program during five of the six, six-week grading periods of the school year. While the academically gifted/talented--or direct target--students were with the teachers who had been identified as direct staff participants, the other--or indirect target--students were involved with the remaining teachers of the school in large group activities. A checklist-type evaluation was planned which would secure input from both direct and indirect traget teachers, parents, and direct target students involved in Program A.

Program B

The administrator of Program B stated that this program was developed as a response to the concern expressed by teachers and parents that the needs of the academically gifted/talented students were not being met in the regular school setting. The subjects in Program B--one administrator, three teachers, and 32 students--were from many different schools in one district. The administrator asked the teachers to participate in the program, and the students were identified by scoring at or above the 90th percentile on the California Achievement Test, and/or scoring 125 or higher on I. Q. test, and/or by teacher recommendation. The administrator, teachers, and students met in a designated location on Wednesday afternoons, after school, to participate in the classes of this program.

The units taught in Program B were developed by the administrator and teachers, who often solicited assistance from community experts, outside the school, with experience in various areas. Each unit was reportedly planned to present activities which emphasized using the higher level thought processes of critical, creative, and evaluative thinking to solve problems. The administrator stated that the goals were not written. An evaluation involving group discussions and a questionnaire was planned.

Program C

Program C was a pull-out program in a single elementary school with grades K-3. The administrator stated that this program

was developed due to the expressed concern of teachers and parents that the academically gifted/talented students in this school were not being challenged in the regular classroom. The bases of identification of students were I. Q. scores of 125 or higher, and/or achievement test scores at or above the 90th percentile, and/or teacher recommendation. This program, then, was designed to offer enrichment activities to the more able learners through activities intended to both challenge these students and enhance their interest in school. None of the goals for this program were written.

The participants in Program C included one administrator, one teacher, and nine students. The teacher was responsible for devleoping the units taught; some of these involved community activities, working with computers, and publishing a school newspaper. The administrator stated that the evaluation procedures of Program C included progress reports by the administrator and teacher, and informal discussions involving the teacher, parents, and students.

Procedure

The initial step in this survey was to informally interview the administrator of each program in the study. During these interviews, the following topics were discussed: the purpose of the program, needs assessment, goals, objectives, identification of students, teachers, effects of program on the regular school schedule, teaching methods, content, evaluation of program, and parental involvement. The responses from each of the administrators

indicated that all three programs were very similar regarding most of these areas. The main difference appeared to be in the organizational structure of each program.

Based on the information from the literature and administrators, the reseacher designed a questionnaire which would obtain written responses to both program-specific statements and open-ended questions. Two forms of this instrument were prepared: one for the administrators, teachers, and parents, and another for the students. The general format was followed for both forms, while the wording and number of items were different. (See Appendix D.)

The program-specific statements addressed the topics: purpose of the program, skills taught, content, methods of instruction, effect of program on students, effect of program on school or system, and evaluation. The respondents rated each statement on the following Likert-type scale:

Degree of Importance

1. Very Unimportant
2. Unimportant
3. Undecided
4. Important
5. Very Important

Extent of Accomplishment

1. Very Unsatisfactory
2. Unsatisfactory
3. Insufficient Information

4. Satisfactory

5. Very Satisfactory

The open-ended questions were designed to obtain examples of specific methods used to achieve the stated goals and objectives of each program. These questions addressed the following areas: creative thinking skills, students' increased interest in school, and changes deemed necessary in the programs.

The questionnaires were delivered to the respective sites of Programs A, B, and C, and the administrators, teachers, and students were asked to complete them. The parents' questionnaires were taken home and returned by the students to the program sites where they were later picked up by the researcher. The percentage of questionnaires returned to the researcher from each program was: Program A--73% of administrators/teachers, 38% of parents, and 68% of students; Program B--75% of administrators/teachers, 69% of parents, and 56% of students; Program C--100% of administrator/teacher, 33% of parents, and 67% of students.

The responses to the program-specific statements were tabulated in the following groups: (1) administrators/teachers, (2) parents, and (3) students from Program A, Program B, and Program C. The percent of responses given to each statement in regard to the degree of importance and extent of accomplishment were then computed for each of the groups from the three programs. (See Appendix E.)

The responses given to the open-ended questions were recorded in the following groups: (1) administrator/teacher,

(2) parents, and (3) students from Program A, Program B, and Program C (see Appendix E). The responses were then summarized.

The data from both the program-specific statements and open-ended questions are presented in Chapter 4 as they relate to the areas of concern of programs for gifted/talented students identified in this study.

Personal interviews were conducted as a follow-up to the written questionnaire. The interviews were conducted by Martha Malloy, a colleague, who was very familiar with this study. Mrs. Malloy traveled to the respective sites of each of the programs and interviewed the following representatives: the administrator, one or two teacher(s), two parents, and two students. The interviews were more personalized to reflect the interviewee's contributions to, and benefits derived from the programs. Specific questions, which addressed basically the same areas as those on the written questionnaire, were asked during the structured interviews. (See Appendix D.) The responses were recorded either on tape or in writing by Mrs. Malloy. (See Appendix E.) The responses to the personal interviews are also summarized in Chapter 4 as they relate to the areas of concern of programs for gifted/talented students idnetified in this study.

Summary

Chapter 3 has described the methods used to conduct a survey of three programs for academically gifted/talented students in this

study. The researcher reviewed the literature concerned with the education of gifted/talented students and conducted informal interviews with the administrators of these programs. Based on the information from these sources, the researcher developed a written questionnaire, which contained both program-specific and open-ended questions. The questionnaire and personal interviews were used to obtain data from each program in the study.

The data gathered through this survey are discussed, and the complementary criteria developed to address each area of concern are presented in Chapter 4. The Rating Scale For The Development and/or Assessment of Programs For Gifted/Talented Students is also described in this chapter.

CHAPTER 4

RESULTS OF THE STUDY

Introduction

The purpose of this study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. Specifically, the questions addressed in this study were:

1. What areas of concern are identifiable in regard to programs for gifted/talented students?
2. What criteria should be met in the development and/or assessment of an effective program for gifted/talented students?
3. By what means could these criteria be used to determine the relative value and quality of any program for gifted/talented students?

In order to achieve the purpose of this study, first, a review of the literature concerned with the research and education of gifted/talented students was conducted. This review revealed that certain topics regarding programs for gifted/talented students were consistently emphasized throughout the literature. These topics were: written goals and objectives, identification of students, teaching strategies, content taught, qualifications of teachers, and evaluation procedures of programs. The researcher, then, identified these topics as areas of concern in the development and/or assessment of programs for gifted/talented students.

In the second phase of the study, the researcher surveyed three programs for gifted/talented students. The purpose of this survey was to ascertain if the areas of concern identified from the literature were also perceived to be areas of concern by persons involved in actual programs for the gifted/talented students. If the data from the survey were found to support the literature, the researcher reasoned that this would warrant the development of a qualitative criterion which would address each area of concern.

These criteria, then, would be used as the framework of an instrument which would serve as a guide in the development and/or assessment of an effective program for gifted/talented students. This instrument, a qualitative criterion-based rating scale, would be evaluated for construct and content validity by educators experienced in educating gifted/talented students, and revisions would be made by the researcher. This rating scale should provide a standard by which the relative quality and value of any program for gifted/talented students could be determined.

Chapter 4 contains the following: the sources of data, analysis of data, discussion of the data, a complementary criterion for each area of concern, and a description of The Rating Scale for the Development and/or Assessment of Programs for Gifted/ Talented Students.

Sources of Data

The data obtained in this study were responses to a written questionnaire and personal interviews. Each of the administrators,

teachers, parents, and students involved in three programs for gifted/talented students was asked to complete the written questionnaire. The personal interviews were conducted with the administrator, one or two teacher(s), two parents, and two students from each program.

The written questionnaire contained both program-specific statements and open-ended questions. Most of the program-specific statements developed for the questionnaire were treated in clusters regarding each area of concern of programs for gifted/talented students identified in the literature. However, due to the relationship of these areas of concern, many of the statements overlap two or more of the areas. The respondents rated these statements on a Likert-type scale of 1-5. From these data, it was possible to determine the following:

1. The degree of importance of the stated goals and objectives as perceived by the administrator, teachers, parents, and students of each program.

2. The extent of accomplishment of the stated goals and objectives as perceived by the administrator, teachers, parents, and students of each program.

3. The degree of agreement or disagreement among the three programs, in regard to the degree of importance and extent of accomplishment of each statement.

The areas of concern addressed by each statement, and the percent of responses to these statements for the administrators/

teachers, parents, and students are shown in Appendix E in the following Tables: Table 1, Program A; Table 2, Program B; and Table 3, Program C.

The open-ended questions were intended to obtain candid answers regarding the methods of teaching and evaluation employed in each program. The responses to these questions by the administrators/teachers, parents, and students are presented in Appendix E in the following tables: Table 4, Program A; Table 5, Program B; and Table 6, Program C.

Personal interviews were conducted as a follow-up to the written questionnaire to provide an additional data source in regard to the concerns of programs for gifted/talented students. The responses to the personal interviews are stated in Appendix E in the following tables: Table 7, Program A; Table 8, Program B; and Table 9, Program C.

Analysis of the Data

The data from the three sources of the survey were generally in agreement. There were, of course, some differences among the perceptions of the administrators/teachers, parents, and students within each program; but there was general agreement among the three programs in regard to the areas of concern. The data from the program-specific statements are discussed for Programs A, B, and C, respectively, and then a summary of the responses from the open-ended questions and personal interviews are presented as they are

related to the six areas of concern of programs for gifted/talented students identified in this study.

Area of Concern: Written Goals and Objectives

Since each of the facets of a program are interrelated, the the goals of the programs in this study are implicit in several of the program-specific statements. Therefore, rather than eliminate some of the statements from the discussion, all of the items which directly addressed the stated goals of each of these programs are listed below:

1. Students will be given the opportunity to participate in enrichment activities.

2. Students will develop the ability to think creatively.

3. Students will be able to take part in activities that cannot be offered in the regular classroom setting.

4. Students will develop the ability to think critically.

5. Students will practice developing better skills for communication.

6. Students will practice leadership qualities.

7. Students will practice being able to solve problems both independently and within a group.

8. Students will develop a greater interest in school.

9. Students will learn to cooperate with classmates.

10. Students will be challenged to develop special talents or skills that they possess.

11. Students will be encouraged to try new ideas and methods to accomplish their goals.

12. Students will develop respect for their abilities in relationships with other students in the program and also with students not in the program.

13. Students will be given the opportunity to explore new ideas in areas such as science and literature.

14. Students will be encouraged to gather and interpret information.

15. Each student will be stimulated to practice evaluative thinking.

The data, regarding this area of concern, gathered in the survey were interesting. The responses will be analyzed by using averages, rather than by considering each item separately. These data are shown in Appendix E in the following tables: Table 10, Percentages of responses for items 1-15 for Program A; Table 11, Percentages of responses for items 1-15 for Program B; and Table 12, Percentages of responses for items 1-15 for Program C.

These data both supported and contradicted the findings in the literature. The questionnaire was designed to determine if the respondents perceived the stated goals to be important, not if they believed that the goals should be written. The majority of responses, then, indicated support for the literature because the degree of importance of the goals was rated to be important or very important by 90% or more of the administrator/teachers, parents,

and students in Programs A and C, and by the administrator/teachers in Program B. The degree of importance was perceived to be important or very important by less than 90% of only the parents and students of Program B.

The contradiction appeared when the data were analyzed in regard to the perceived extent of accomplishment of these goals. The literature consistently emphasized the importance of developing and writing the goals of a program. This, it was stated, should facilitate the planning, implementation, and evaluation of the program; and thus, increase the incidence of accomplishing the goals. These data, however, projected a different viewpoint.

As stated in Chapter 3, only one of the programs in this study--Program A--had written goals. According to the literature, then, a larger percentage of respondents from Program A should have perceived the goals to have been accomplished to a higher extent than the respondents from Programs B and C. The opposite was true. The total difference between the averages of responses for the degree of importance and extent of accomplishment of items 1-15 for Program A was 12.6%, while it was 12.3% for Program B, and 4.2% for Program C. (See Tables 10, 11, and 12, Appendix E.) This isolated incident, however, definitely should not discourage the writing of goals for programs for gifted/talented students. Instead, it seems that one could question the purpose and application of the goals in Program A in an endeavor to develop this into a more effective program.

The responses to both the open-ended questions and personal interviews indicated agreement among the three programs in regard to the stated goals and objectives. It was reported by the respondents in each of the programs that the extra activities and individual attention offered the students in each of these programs were instrumental in the students' developing independence and self-confidence. It was stated that the students enjoyed activities and materials not used in the regular classroom, were proud to be in the program, and enjoyed working with other students who possessed similar learning abilities. The responses from each of the programs also indicated that the students enjoyed reading from resource material rather than textbooks, taking field trips, and studying extra topics that were not covered in their classroom work. In Programs A and C it was perceived that the high levels of interest in the subjects taught in the programs were carried over into the classroom. The responses indicated that each of the programs surveyed in this study was perceived to accomplish the stated goals, but not to the highest possible extent of accomplishment.

Area of Concern: Identification of Students

There was only one program-specific statement on the questionnaire which addressed this area of concern. This was because the methods of identification of the students in each of the programs were established, and the researcher only attempted to determine if the respondents in the survey agreed or disagreed with

these methods. More data concerned with this concept were obtained through the open-ended questions and personal interviews. The program-specific statement was:

18. The students are chosen by objective methods to participate in the program.

The responses from Program A indicated that 100% of the administrators/teachers, 90.5% of the parents, and 95.7% of the students rated the degree of importance for item 18 to be important or very important, while 62.5% of the administrators/teachers, 71.4% of the parents, and 89.5% of the students perceived the extent of accomplishment to be satisfactory or very satisfactory in regard to this statement.

The responses from Program B were lower for each group than they were in Programs A or C. One of the primary sources of the identification of students for Program B was teacher recommendation. Item 18 was perceived to be important or very important by 66.7% of the administrators/teachers, 77.3% of the parents, and 55.5% of the students. The extent of accomplishment for this statement was rated to be satisfactory or very satisfactory by 66.6% of the administrators/teachers, 59.1% of the parents, and 44.4% of the students in Program B.

The responses of Program C were very consistent. The degree of importance for item 18 was perceived to be important or very important by 100% of all the respondents, while the extent of accomplishment was rated to be satisfactory or very satisfactory by 100%

of the adminstrators/teachers and parents, and 83.3% of the students in Program C.

The responses to the open-ended questions and personal interviews of the survey indicated that the identification of students was the major concern of the administrators, teachers, and parents involved in the programs of this study. It was reported that additional instruments would be beneficial in identifying students, because the respondents perceived that the methods previously used missed some qualified students, while the same methods identified students who could not benefit fully from each of the programs.

Area of Concern: Teaching Strategies

The program-specific statements which most directly addressed this area of concern were:

2. Students will develop the ability to think creatively.

4. Students will develop the ability to think critically.

15. Each student will develop the skill of evaluative thinking.

Most of the responses from the three groups in Program A were in agreement in regard to the development of creative, critical, and evaluative thinking skills. The perceived degree of importance was rated higher than the perceived extent of accomplishment for all three items, except for number 15. Only the students rated the extent of accomplishment to be higher than the degree of importance for the development of evaluative thinking skills.

The degree of importance for item 2 (creative thinking) was perceived to be important or very imporant by 100% of the administrators/teachers, 95.2% of the parents, and 94.8% of the students. The extent of accomplishment for this statement, however, was perceived to be satisfactory or very satisfactory by 87.5% of the administrators/teachers, 66.7% of the parents, and 92.1% of the students in Program A.

The second item that addressed this area of concern dealt with the skill of critical thinking. The responses from Program A indicated that the degree of importance for this statement was perceived to be important or very important by 100% of the administrators/teachers, 95.2% of the parents, and 87.6% of the students, while the extent of accomplishment for this item was perceived to be satisfactory or very satisfactory by 87.5% of the administrators/teachers, 66.7% of the parents, and 66.7% of the students.

The third statement, item 15, was concerned with evaluative thinking. This statement was considered to be important or very important by 87.5% of the administrators/teachers, 95.3% of the parents, and 89.5% of the students in Program A. The extent of accomplishment for item 15 was perceived to be satisfactory or very satisfactory by 62.5% of the administrators/teachers, 57.1% of the parents, and 92.2% of the students in Program A.

The responses from Program B indicated that the degree of importance of the development of creative thinking skills was perceived to be important or very important by 100% of the adminstrators/

teachers, 95.5% of the parents, and 77.7% of the students, while the extent of accomplishment of this statement was rated satisfactory or very satisfactory by 100% of the administrators/teachers, 86.3% of the parents, and 88.9% of the students.

The degree of importance for item 4, which dealt with the skill of critical thinking, was perceived to be important or very important by 100% of the administrators/teachers and parents, and 66.6% of the students. The extent of accomplishment was perceived to be satisfactory or very satisfactory by 100% of the administrators/teachers, 86.3% of the parents, and only 66.6% of the students of Program B in regard to this statement.

The last statement which directly addressed the third area of concern was 15: students will develop the skill of evaluative thinking. The responses from Program B perceived the degree of importance to be important or very important by 100% of the administrators/teachers and parents and 55.5% of the students, while the extent of accomplishment for item 15 was rated to be satisfactory or very satisfactory by 100% of the administrators/teachers, 45.4% of the parents, and 44.4% of the students.

The responses from Program C were in almost total agreement regarding each of these statements. The degree of importance was perceived to be important or very important and the extent of accomplishment was rated to be satisfactory or very satisfactory by 100% of the parents and students for items 2 (creative thinking), 4 (critical thinking), and 15 (evaluative thinking), and by 100% of

the administrators/teachers for statements 2 and 15. The extent of accomplishment of item 4 was also perceived to be satisfactory or very satisfactory by 100% of the administrators/teachers, but the degree of importance was considered important or very important by 50% of this group.

These particular statements were discussed individually because the development of the innate reasoning abilities possessed by these children was the most consistently cited reason for developing a program for gifted/talented students; and these reasoning abilities--or higher level thought processes of analyzing, synthesizing, and evaluating--are actuated by activities requiring creative, critical, and evaluative thinking skills. There were other items of the questionnaire which were also related to teaching strategies. These were:

1. Students will be given the opportunity to participate in enrichment activities.

3. Students will be able to take part in activities that cannot be offered in the regular classroom setting.

5. Students will practice developing better skills for communication.

6. Students will practice leadership qualities.

7. Students will practice being able to solve problems both independently and within a group.

9. Students will learn to cooperate with classmates.

10. Students will be challenged to develop special talents or skills that they possess.

11. Students will be encouraged to try new ideas and methods to accomplish their goals.

12. Students will develop respect for their abilities in relationships with other students in the program and also students not in the program.

13. Students will be given the opportunity to explore new ideas in areas such as science and literature.

14. Students will be encouraged to gather and interpret information.

19. The concepts or ideas taught and the methods of presentation used would not be practicable in the regular classroom setting.

20. The teachers who participate in the program are selected because they use creative, innovative, and stimulating methods of teaching in regular classrooms.

35. The program has helped the teachers to develop more creative methods of teaching and stimulating the students.

The majority of the respondents from Programs A, B, and C in the survey perceived these statements to have a higher degree of importance than extent of accomplishment.

The responses to the open-ended questions and personal interviews from each of the programs indicated that a great deal of similarity was exhibited among the three programs in regard to the methods of instruction used to develop creative, critical, and evaluative thinking skills. The respondents of the survey reported that the students were encouraged to use creative thinking skills

in activities such as: writing and presenting a play, writing creative stories, participating in creative art activities (e.g., making floats, constructing quilts, etc.), role playing, and developing new ways of solving problems.

Critical and evaluative thinking skills were reportedly developed in the programs of this study by challenging the students to: conduct research and report the findings for various topics, compare the outcome of projects, work with computers, participate in group discussions of good and bad effects of certain products, and think independently to form their own decisions.

Area of Concern: Content Taught

There were thirteen program-specific statements on the questionnaire which dealt with the area of content taught. Some of these, due to the overlapping mentioned previously, have also been associated with other areas of concern for programs for gifted/talented students in this study. Three of these items (creative, critical, and evaluative thinking skills) will not be included here since they were so specifically related to teaching strategies, and were addressed separately in that area.

Nine of the statements will be discussed simultaneously by using the percentages of the responses from Programs A, B, and C. These statements are:

1. Students will be given the opportunity to participate in enrichment activities.

3. Students will be able to take part in activities that cannot be offered in the regular classroom setting.

5. Students will practice developing better skills for communication.

6. Students will practice leadership qualities.

7. Students will practice being able to solve problems both independently and within a group.

10. Students will be challenged to develop special talents or skills that they possess.

11. Students will be encouraged to try new ideas and methods to accomplish their goals.

13. Students will be given the opportunity to explore new ideas in areas such as science and literature.

14. Students will be encouraged to gather and interpret information.

The data for these statements are presented in Appendix E in the following tables: Table 13, Percentages of responses to items related to content taught for Program A; Table 14, Percentages of responses to items related to content taught for Program B; and Table 15, Percentages of responses to items related to content taught for Program C.

The percentages of the responses for the degree of importance for the items were perceived to be as high or higher than the extent of accomplishment by the administrators/teachers, parents, and students in each of the programs in this study. Program A, as in the

area of goals, had the greatest difference between the percentages of responses for importance and accomplishment with a total of 12.9%, while Program B revealed a total difference of 9.8%, and Program C had the least, with 4.1% total difference.

The last program-specific statement to be discussed is:

19. The concepts or ideas taught and the methods of presentation used would not be practicable in the regular classroom setting.

This item was not included in the group of statements for this area because it is stated in a negative manner. Therefore, the responses were incongruous when computing the averages of the other nine statements. The respondents of this study rated this statement generally low for both the degree of importance and extent of accomplishment. By rejecting this negatively stated item, the responses from each of the programs indicated that the setting, or environment, of the programs was considered to be less important than the methods of instruction or content taught.

The responses from Program A for statement 19 revealed that the degree of importance was perceived to be important or very important by 37.5% of the administrators/teachers, 33.3% of the parents, and 89.5% of the students, while 25% of the administrators/teachers and 61.9% of the parents were undecided. The extent of accomplishment was rated to be satisfactory or very satisfactory by 62.5% of the administrators/teachers, 36.4% of the parents, and 81.6% of the students, while 25% of the administrators/teachers and 36.4% of the parents were undecided in regard to the setting, or where the content was taught.

Item 19 dealt with the setting, or where the content was taught. The responses from Program B indicated that the importance of this concept was perceived to be important or very important by 66.7% of the administrators/teachers, 59.1% of the parents, and 44.4% of the students. The extent of accomplishment for this statement was rated to be satisfactory or very satisfactory by 66.7% of the administrators/teachers, 36.4% of the parents, and 55.5% of the students in Program B.

The responses for item 19 indicated that the degree of importance was thought to be important or very important by 50% of the administrators/teachers and 100% of the students, while the parents' responses were 66.7% for unimportant and 33.3% for undecided. The extent of accomplishment for this statement was perceived to be important or very important by 50% of the administrators/teachers, 33.3% of the parents, and 83.3% of the students. The remainder of the responses from Program C for the extent of accomplishment for item 19 indicated that the respondents were undecided.

The data from all three programs in this study revealed that while the major emphasis was on teaching skills, such as creative thinking and problem solving, teaching specialized content was considered to be second, and the environment, or where the subject was taught, was ranked third.

Area of Concern: Qualifications of Teachers

The data gathered in the survey of this study indicated that the teachers in programs for gifted/talented students should exhibit

an interest in the program and use innovative methods of teaching and motivate the students. Two of the program-specific statements which specifically addressed this area of concern were:

17. The program is supported by the teachers.

20. The teachers who participate in the program were selected because they use creative, innovative and stimulating methods of teaching in regular classrooms.

The responses from Program A for item 17 (the program is supported by the teachers) stated that the degree of importance was regarded as important or very important by 100% of the administrators/teachers, 95.2% of the parents, and 92.1% of the students; and the extent of accomplishment was considered to be satisfactory or very satisfactory by 100% of the administrators/teachers, 57.1% of the parents, and 86.9% of the students.

The second statement, which addressed the teaching styles exhibited by the teachers, was perceived to be important or very important by 50% of the administrators/teachers, 95.2% of the parents, and 89.5% of the students, while the extent of accomplishment for item 20 was rated to be satisfactory or very satisfactory by 25% of the administrators/teachers, 52.4% of the parents, and 84.2% of the students of Program A.

The responses from Program B revealed that the degree of importance for item 17 (teachers support the program) was perceived to be important or very important by 100% of the administrators/teachers, 86.4% of the parents, and 77.7% of the students; and the

extent of accomplishment for statement 17 was reported to be satisfactory or very satisfactory by 100% of the administrators/teachers, 72.7% of the parents, and 44.4% of the students.

Item 20, which addressed the methods used by the teachers, was rated higher by the respondents of Program B, than it was by the respondents of Program A. The degree of importance for this statement was perceived to be important or very important by 100% of the administrators/teachers and students, and 90.9% of the parents; and the extent of accomplishment for item 20 was considered to be satisfactory or very satisfactory by 100% of the administrators/teachers and students, and 77.3% of the parents from Program B.

The responses from Program C were rather consistent for both items 17 and 20. The degree of importance of statement 17 was perceived to be important or very important by 100% of each of the groups of respondents, while the extent of accomplishment was regarded as satisfactory or very satisfactory by 100% of the administrators/teachers and students, and only 33.3% of the students of Program C.

The degree of importance for item 20 (individual teaching styles) was believed to be important or very important and the extent of accomplishment was rated to be satisfactory or very satisfactory by 100% of the administrators/teachers and students of Program C. The responses of the parents indicated that 33.3% of them perceived the degree of importance to be unimportant and 66.7% were undecided; while the extent of accomplishment was believed to be unsatisfactory

by 33.3% of the parents, and the remainder, 66.7%, were undecided in regard to item 20.

Additional statements on the questionnaire which addressed both this area of concern and that of evaluation are:

28. The teachers are proud to work in the program.

29. The teachers share in the planning and scheduling of the program.

30. The teachers are provided adequate time to prepare materials and presentations for the program.

31. The program was initiated by the administrator and the teachers are told what to do.

32. The program was initiated and planned by equally interested administrators and teachers.

35. The program has helped the teachers to develop more creative methods of teaching and stimulating the students.

With only two exceptions, the responses to these statements indicated that the degree of importance was perceived to be as high or higher than the extent of accomplishment by the administrators/teachers, parents, and students of Programs A, B, and C.

The responses to the open-ended questions and personal interviews revealed that, even though certain traits addressed in the program-specific statements were thought to be important by the majority of respondents, there were no written guidelines or criteria that had to be met to qualify to teach in the programs in this study. Program B of this study was the only one in which the administrator

stated that the teachers were asked to participate because of the creative and exciting methods of teaching they used in their regular classrooms. The teachers in Program A and C reportedly volunteered to work due to a personal interest in each program. None of the teachers, however, had completed formal training for the purpose of learning to teach gifted/talented students.

Area of Concern: Evaluation of Programs

The data from this study indicated that the improvement of any program for gifted/talented students was thought to be dependent upon the process of evaluation. The two program-specific statements which most directly dealt with this area of concern were:

33. Adequate methods are used to evaluate the program.

34. Future plans for the program are based on evaluations received from administrators, parents, students, and teachers.

These statements were on the form of the questionnaire prepared for the administrators/teachers and parents, but they were not included on the students' questionnaire. The responses, therefore, will be discussed only for the administrators/teachers and parents.

The first statement, which addressed adequate methods of evaluation was perceived to be important or very important by 100% of the administrators/teachers and 61.9% of the parents; and the extent of accomplishment was thought to be satisfactory or very satisfactory by 50% of the administrators/teachers and only 28.3% of the parents from Program A.

The degree of importance of the second statement--future plans for the program are based on evaluations received from administrators, parents, students, and teachers--was believed to be important or very important by 75% of the administrators/teachers and 76.2% of the parents; the extent of accomplishment, however, was rated to be satisfactory or very satisfactory by 62.5% of the administrators/teachers and 52.4% of the parents from Program A.

The responses from Program B were similar to the responses from Program A for items 33 and 34. The degree of importance for statement 33 (adequate evaluation methods) was perceived to be important or very important by 66.7% of the administrators/teachers and 63.7% of the parents; while the extent of accomplishment was revealed to be satisfactory or very satisfactory by, again, 66.7% of the administrators/teachers, but only 50% of the parents from Program B.

Statement 34 (future plans for evaluation) was thought to be important or very important by 100% of the administrators/teachers and 77.3% of the parents; and the extent of accomplishment was regarded as satisfactory or very satisfactory by 100% of the administrators/teachers and 54.6% of the parents from Program B.

The responses from Program C were slightly lower than those from Programs A and B. The degree of importance was perceived to be important and the extent of accomplishment was thought to be satisfactory for both the statements concerned with evaluation by 50% of the administrators/teachers and 33.3% of the parents from

Program C. The majority of the parents marked undecided for both items.

The other program-specific statements that were categorized into the area of evaluation were developed basically for the evaluation of the three specific programs in this study. These are:

16. The program is beneficial to the overall school organization.

21. The program should be expanded and include more teachers and students.

22. The program should remain the same.

23. The program should have fewer teachers and students.

24. The program does not interfere with regular classroom activities.

25. The overall school organization would benefit if the program were discontinued.

26. The students are proud to be in the program.

27. The students resent the extra work required of them in the program.

The administrator of each program surveyed in this study stated that one of the goals of the program was to provide an adequate means of evaluation. The data gathered from the open-ended questions and personal interviews, however, revealed that some of the respondents perceived the evaluation procedures to be inadequate.

The responses to the interviews for Program A indicated that the teachers, parents, and students did not feel that they were

included in an evaluation process. The responses of the administrators and teachers of Program A referred only to the type of evaluation used to measure the amount of knowledge or skills gained by the students in regard to each topics, such as pre- and post-tests.

The responses from the persons involved in Progam B indicated that a method of evaluation had been developed which included group meetings involving the administrator and teachers, and asking the parents to complete a written form to evaluate the program. The students were also included in the evaluation process by participating in group discussions and completing written forms about the units they had studied.

Program C was purportedly evaluated by using progress reports between the administrator and teachers, conducting informal talks between teachers and parents, and having group discussions involving the students and teachers.

Discussion of Data

The results of this research supported the findings cited in the literature because the majority of responses to the program-specific statements indicated that the following were perceived to be important or very important:

1. The stated goals--which were basically the same as those most often cited in the literature--of these programs.

2. That objective methods be used to identify students to participate in the program.

3. That teaching strategies be used to develop creative, critical, and evaluative thinking skills.

4. That the students be able to gather and interpret information and practice problem solving in areas not taught in the general school curriculum.

5. That the teachers be interested in the program, support the program, and use appropriate methods to teach the gifted/talented students.

6. That each person in the program participate in the evaluation of the program, and that the information obtained in the evaluation be used to improve the program.

The second set of data obtained by the program-specific statements indicated how well each of these programs served the gifted/talented students by rating the extent of accomplishment of the stated goals. The information gathered in this portion of the survey revealed that the majority of respondents perceived that each of the programs could be more effective.

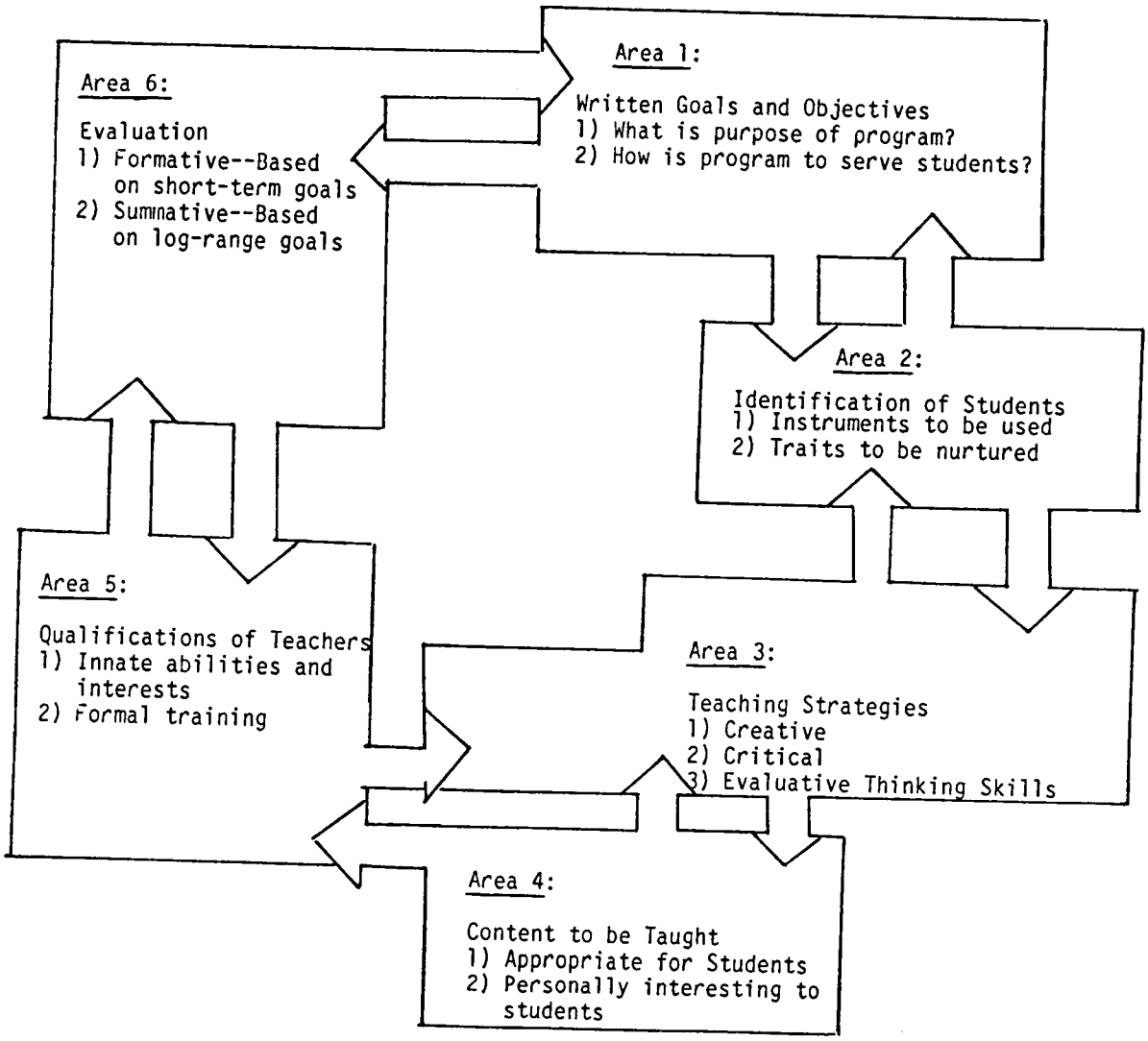
The responses to the open-ended questions and personal interviews revealed specific methods of teaching and evaluation that were used in each program. These responses also indicated that each program exhibited weaknesses in one or more of the different areas. Therefore, the same basic areas of concern identified from the synthesis of the literature were found to exist in the three programs for gifted/talented students surveyed in this study. An important aspect to be considered in regard to these areas of concern

is that of interdependence. Each area identified in this study is concurrently affected by the other components of a program for gifted/talented students (see Figure 6). This figure depicts the concept of these areas encompassed in an interacting cycle.

From these findings, the researcher reasoned that definite guidelines would improve the effectiveness of these and other programs for gifted/talented students; and that specific criteria which addressed each of these areas of concern were needed to provide a common basis of objectives and approaches for the development and/or assessment of these programs. Therefore, the researcher developed a complementary criterion for each area of concern (see Figure 7).

These criteria were then applied in the designing of a Rating Scale for the Development and/or Assessment of Programs for Gifted/Talented Students. Since this rating scale was designed to address the intrinsic and fundamental components of a program for gifted/talented students identified through this research, it is not offered as an all-inclusive instrument of statements to be considered in the development and/or assessment of this type program. Rather, it is offered as a prototype of a rating scale, which can be modified, to measure the effectiveness of any program for gifted/talented students.

The Rating Scale for the Development and/or Assessment of Programs for Gifted/Talented Students developed in this study is presented in Appendix F.


Area 1:
Written Goals and Objectives
1) What is purpose of program?
2) How is program to serve students?
Area 2:
Identification of Students
1) Instruments to be used
2) Traits to be nurtured
Area 3:
Teaching Strategies
1) Creative
2) Critical
3) Evaluative Thinking Skills
Area 4:
Content to be Taught
1) Appropriate for Students
2) Personally interesting to students
Area 5:
Qualifications of Teachers
1) Innate abilities and interests
2) Formal training
Area 6:
Evaluation
1) Formative--Based on short-term goals
2) Summative--Based on log-range goals

Area of Concern	Complementary Criterion
1. Development of Written Goals and Objectives.	Written goals and objectives which are consistent with the philosophy of the school and community are formally developed.
2. Identification of Students	Adequate screening procedures are used in the identification of gifted/talented students for the program.
3. Teaching Strategies	Opportunities are provided for students to solve problems by developing creative, critical, and evaluative thinking skills.
4. Content	Opportunities are provided for students to pursue subject matter in which they can experience a personal interest.
5. Qualifications of Teachers for Gifted/Talented Students	Appropriate criteria are used to select teachers for the program for gifted/talented students.
6. Procedures Used to Evaluate the Program for Gifted/Talented Students	Adequate measures of evaluation are used to allow for the continuous improvement of the program.

Figure 7. Areas of Concern of Programs for Gifted/Talented Students with Complementary Criteria.

CHAPTER 5

SUMMARY, FINDINGS, CONCLUSIONS, RECOMMENDATIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

Introduction

The purpose of this study was to design a rating scale for the development and/or assessment of programs for gifted/talented students. Specifically, the questions addressed in this study were:

1. What areas of concern are identifiable in regard to programs for gifted/talented students?
2. What criteria should be met in the development and/or assessment of an effective program for gifted/talented students?
3. By what means could these criteria be used to determine the relative value and quality of any program for gifted/talented students?

In order to achieve the purpose of this study, first, a review of the literature concerned with the research and education of gifted/talented students was conducted. This review revealed that certain topics regarding programs for gifted/talented students were consistently emphasized throughout the literature. These topics were: written goals and objectives, identification of students, teaching strategies, content taught, qualifications of teachers, and evaluation procedures of programs. The researcher,

then, identified these topics as areas of concern in the development and/or assessment of programs for gifted/talented students.

In the second phase of the study, the researcher surveyed three programs for gifted/talented students. The purpose of this survey was to ascertain if the areas of concern identified from the literature were also perceived to be areas of concern by persons involved in actual programs for gifted/talented students.

The data from the survey supported the findings in the literature. Therefore, based on these sources of information, the researcher developed a qualitative criterion which addressed each area of concern. These criteria then, were used as the framework of an instrument which would serve as a guide in the development and/or assessment of an effective program for gifted/talented students. This instrument, a qualitative criterion-based rating scale, was evaluated for construct and content validity by five educators experienced in educating gifted/talented students, and revisions were made by the researcher. This rating scale should provide a standard by which the relative quality and value of any program for gifted/talented students could be determined.

Chapter 5 contains a summary, findings, conclusions, recommendations of this study, and concludes with recommendations for further research in this area.

Summary

Chapter 1 contained a rationale, stated the problem addressed, and explained the purpose of this study. Questions, assumptions,

definitions of terms, limitations and delimitations were listed, and a brief review of the procedure was presented.

Chapter 2 presented a review of the literature concerned with the research and education of gifted/talented students. The areas addressed were: historical development, identification of the gifted/talented student, characteristics of the gifted/talented student, grouping, acceleration, enrichment, teachers of the gifted/talented students, teaching-learning models, and programs for gifted/talented students.

Chapter 3 described the methods used to conduct a survey of three programs for gifted/talented students. A written questionnaire and personal interviews were used to obtain the data concerning the programs. The objective responses were analyzed by computing the percents of responses for each group of respondents in Programs A, B, and C, and the subjective responses were categorized into specific topics.

The data gathered through the survey of the study were presented in Chapter 4. The percentages of responses to the program-specific statements were given, and the responses to the open-ended questions and personal interviews were summarized as they were related to the areas of concern of programs for gifted/talented students identified in this study. Chapter 4 also contained the complementary criteria developed to address each area of concern and a description of The Rating Scale for the Development and/or Assessment of Programs for Gifted/Talented Students. The Rating

Scale is also believed to be designed in a manner that would make it applicable in a variety of situations. It is the opinion of this researcher that this instrument has the potential to improve the educational opportunities offered gifted/talented students, and the sincere hope that it will.

Findings of the Study

The following findings were supported by the data reported in Chapter 4.

1. The majority of the respondents from Program A, B, and C perceived the degree of importance to be as high or higher than the extent of accomplishment for the program-specific statements concerned with the stated goals of the program. Program A was the only program which had written goals and objectives for the program.

2. The responses from each of the programs perceived the degree of importance to be as high or higher than the extent of accomplishment for the program-specific statement which stated that the students were identified to participate in the program by objective means. The area of identification was stated to be one of the major concerns of the respondents in the survey of this study.

3. The majority of responses from each of the programs surveyed in this study rated the degree of importance to be as high or higher than the extent of accomplishment for the program-specific statements concerned with the development of creative, critical, and

evaluative thinking skills. The methods used to develop the higher level thinking skills in Programs A, B, and C were reported to be similar.

4. The majority of responses from Programs A, B, and C indicated that the degree of importance was perceived to be as high as or higher than the extent of accomplishment in regard to the students' having the opportunity to study new topics and areas of subjects in the program. The content was also rated to be more important than the setting or where the content was taught. The data gathered indicated that the students in this study were limited in regard to the amount of freedom they were offered to choose topics of study and design a procedure by which they could solve a problem which was personally interesting to them.

5. It was perceived to be very important that the teachers support the programs for gifted/talented students and employ creative teaching strategies in the regular classroom; but the extent of accomplishment was rated lower than the degree of importance for both these concepts by the majority of the administrators, teachers, parents, and students who responded to the survey of this study. An additional finding in regard to the qualifications of teachers was that there were no written guidelines or criteria that had to be met to qualify to teach in the programs in this study. The teachers were regular classroom teachers who had not completed formal training to help them deal with gifted/talented students.

6. The responses to the written questionnaire of this study revealed that the administrators, teachers, and parents rated the degree of importance as high as or higher than the extent of accomplishment for the program-specific statements which stated that adequate methods were used for evaluation and future plans would be based on evaluations from administrators, teachers, parents, and students. The responses to the open-ended questions and personal interviews indicated that the teachers, parents, and students did not perceive that they were adequately involved in an evaluation process of the programs. The data from this survey, then, indicated that provisions were planned for a comprehensive evaluation of each program. The respondents, however, did not perceive that this was satisfactorily accomplished.

Conclusions

Based on the consistency of the responses of the administrators, teachers, parents, and students surveyed in this study, with findings from the literature and subject to the limitations stated in Chapter 1, the following conclusions were drawn from this study:

1. Any program designed for gifted/talented students should formally develop written goals and objectives which would serve as the focal point of both development and assessment of the program.

2. A variety of objective measures should be used to identify the gifted/talented students who participate in the program.

3. The teaching strategies designed for programs for gifted/talented students should challenge and direct the learners to develop their innate reasoning abilities to solve problems through creative, critical, and evaluative thinking processes.

4. The personal interests of the gifted/talented students should be the determinative factors of the content taught in programs for these more capable learners.

5. The teachers in programs for gifted/talented students should be selected on the bases of criteria which address personality traits and formal training which enable the teacher to guide these students.

6. A qualitative criterion-based rating scale should expedite the process of evaluation of programs for gifted/talented students. This instrument should provide the means to establish the desired goals and objectives and then measure the effectiveness of any program in regard to these goals and objectives. By making it possible to determine the relative quality and value of any program, the rating scale should serve as a vehicle to assure the continuous improvement of each program for gifted/talented students.

Recommendations

Based on the conclusions of this study, the following recommendations are made:

1. That the goals and objectives which specifically address the purpose of the program for gifted/talented students be written,

kept on file, and used in both the implementation and evaluation phases of the program.

2. That a multiplicity of objective instruments be used to identify the students who participate in the gifted/talented program.

3. That special techniques which specifically teach gifted/talented students to solve problems through creative, critical, and evaluative thinking processes be consistently employed.

4. That gifted/talented students be afforded the opportunity to solve problems in areas in which they experience a personal interest.

5. That the teachers of gifted/talented students be required to exhibit personality traits and learned behaviors that are conducive to directing the learning processes of gifted/talented students.

6. That a rating scale be used to evaluate the program for gifted/talented students.

Recommendations for Further Research

The need to measure the effectiveness of programs for gifted/talented students will exist as long as there are programs for gifted/talented students. Most schools or systems do not use standardized test scores to determine the benefits of such programs, because the purpose of the majority of these programs is to enrich the educational opportunities of these students, not to increase their basic knowledge and skills.

This study has indicated that there are several areas concerned with the education of gifted/talented students in which further research might be conducted. Some of these are:

1. The Rating Scale for the Development and/or Assessment of Programs for Gifted/Talented Students needs to be field tested with revision of the instrument based on the results of field testing.

2. The Rating Scale needs to be adapted and field tested to accommodate the development and assessment of programs for students who are gifted/talented in single, specific subject areas (e.g., music, art, writing, etc.).

3. A method of determining the score of a program evaluated by the Rating Scale needs to be developed.

4. Further research which would develop guidelines for determining the most effective and attainable goals of programs for gifted/talented students is needed.

5. Based on the conclusions of this study, research is needed to design new instruments and improve existing instruments for the identification of gifted/talented students.

6. Research is needed to determine specific needs and interests of gifted/talented students and to determine ways by which these needs and interests may be incorporated into the content of the programs for these students.

7. Additional research is needed to determine what effect specific teacher attitudes and behaviors produce toward the attitudes and progress of the gifted/talented students in these programs.

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APPENDICES

APPENDIX A

INSTRUMENTS FOR IDENTIFICATION OF GIFTED/TALENTED STUDENTS

SCALE FOR RATING BEHAVIORAL CHARACTERISTICS

OF SUPERIOR STUDENTS

Joseph S. Renzulli/Robert K. Hartman

Name_____ Date_____

School_____ Grade_____ Age_____
years months

Teacher or person completing this form_____

How long have you known this child?_____ months

Directions. These scales are designed to obtain teacher estimates of a student's characteristics in the areas of learning, motivation, creativity, and leadership. The items are derived from the research literature dealing with characteristics of gifted and creative persons. It should be pointed out that a considerable amount of individual differences can be found within this population; and therefore, the profiles are likely to vary a great deal. Each item in the scales should be considered separately and should reflect the degree to which you have observed the presence or absence of each characteristic. Since the four dimensions of the instrument represent relatively different sets of behaviors, the scores obtained from the separate scales should not be summed to yield a total score. Please read the statements carefully and circle the appropriate number according to the following scale of values:

1. If you have seldom or never observed this characteristic.

2. If you have observed this characteristic occasionally.

3. If you have observed this characteristic to a considerable degree.

4. If you have observed this characteristic almost all of the time.

PART I: LEARNING CHARACTERISTICS

1. Has unusually advanced vocabulary for age or grade level; uses terms in a meaningful way; has verbal behavior characterized by "richness" of expression, elaboration, and fluency. 1 2 3 4

2. Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his age). 1 2 3 4

3. Has quick mastery and recall of factual information.	1	2	3	4
4. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provactive questions (as distinct from information or factual questions); wants to know what makes things (or people) "tick."	1	2	3	4
5. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people, or things; looks for similarities and differences in events, people, and things.	1	2	3	4
6. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc. than others.	1	2	3	4
7. Reads a great deal on his own; usually prefers adult level books, does not avoid difficult material; may show a preference for biography, encyclopedias, and atlases.	1	2	3	4
8. Tries to understand complicated material by separating it into its respective parts; reasons things out for himself; sees logical and common sense answers.	1	2	3	4
Column Total	___	___	___	___
Weight	___	___	___	___
Weighted Column Total	___	___	___	___
Total				___

PART II: MOTIVATIONAL CHARACTERISTICS

1. Becomes absorbed and truly involved in certain topics or problems; is persistent in seeking task completion. (It is sometimes difficult to get him to move on to another topic.)	1	2	3	4
2. Is easily bored with routine tasks.	1	2	3	4
3. Needs little external motivation to follow through in work that initially excites him.	1	2	3	4

4. Strives toward perfection; is self-critical; is not easily satisfied with his own speed or products.	1	2	3	4
5. Prefers to work independently; requires little direction from teachers.	1	2	3	4
6. Is interested in many "adult" problems such as religion, politics, sex, race--more than usual for age level.	1	2	3	4
7. Often is self-assertive (sometimes even aggressive); stubborn in his beliefs.	1	2	3	4
8. Likes to organize and bring structure to things, people, and situations.	1	2	3	4
9. Is quite concerned with right and wrong, good and bad; often evaluates and passes judgment on events, people, and things.	1	2	3	4
Column Total	___	___	___	___
Weight	___	___	___	___
Weighted Column Total	___	___	___	___
Total	___	___	___	___

PART III: CREATIVITY CHARACTERISTICS

1. Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything.	1	2	3	4
2. Generates a large number of ideas or solutions to problems and questions; often offers unusual ("way out"), unique, clever responses.	1	2	3	4
3. Is uninhibited in expressions of opinion; is sometimes radical and spirited in disagreement; is tenacious.	1	2	3	4
4. Is a high risk taker; is adventurous and speculative.	1	2	3	4
5. Displays a good deal of intellectual playfulness; fantasizes; imagines ("I wonder what would happen if . . .").	1	2	3	4

6.	Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others.	1	2	3	4
7.	Is unusually aware of his impulses and more open to the irrational in himself (freer expression of feminine interest for boys, greater than usual amount of independence for girls); shows emotional sensitivity.	1	2	3	4
8.	Is sensitive to beauty; attends to aesthetic characteristics of things.	1	2	3	4
9.	Is nonconforming; accepts disorder; is not interested in details; is individualistic; does not fear being different.	1	2	3	4
10.	Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination.	1	2	3	4
	Column Total	___	___	___	___
	Weight	___	___	___	___
	Weighted Column Total	___	___	___	___
	Total	___	___	___	___

PART IV: LEADERSHIP CHARACTERISTICS

1.	Carries responsibility well; can be counted on to do what he has promised and usually does it well.	1	2	3	4
2.	Is self-confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.	1	2	3	4
3.	Seems to be well liked by his classmates.	1	2	3	4
4.	Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with.	1	2	3	4
5.	Can express himself well; has good verbal facility and is usually well understood.	1	2	3	4
6.	Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed.	1	2	3	4

7.	Seems to enjoy being around other people; is sociable and prefers not to be alone.	1	2	3	4
8.	Tends to dominate others when they are around; generally directs the activity in which he is involved.	1	2	3	4
9.	Participates in most social activities connected with the school; can be counted on to be there if anyone is.	1	2	3	4
10.	Excels in athletic activities; is well coordinated and enjoys all sorts of athletic games.	1	2	3	4
	Column Total	___	___	___	___
	Weight	___	___	___	___
	Weighted Column Total	___	___	___	___
	Total	___	___	___	___

Scoring. Separate scores for each of the three dimensions may be obtained as follows:

* Add the numbers circled in each column to obtain the "Column Total."

* Multiply the Column Total by the "Weight" for each column to obtain the "Weighted Column Total."

* Sum the Weighted Column Totals across to obtain the "Score" for each dimension of the scale.

* Enter the Scores below.

Learning Characteristics _____

Motivational Characteristics _____

Creativity Characteristics _____

Leadership Characteristics _____

SELECTION OF INTELLECTUALLY TALENTED
(Taylor, 1962)

Name_____ Grade_____ Date_____

School_____ Teacher_____

Note: Since talented students exhibit their talents in many ways, no single test score should be used as the sole criterion for selection. Teachers' judgements concerning classroom performance and motivation will be coupled with high test scores.

Combinations of some of the following characteristics are usually apparent in intellectually talented students. Please check as applies to the student.

	Always	Frequently	Seldom	Never
1. Large vocabulary which is used easily and accurately.				
2. Academic work one or more years in advance of his class.				
3. Asks many penetrating questions. Wants to know the causes and reasons for things.				
4. Wide range of interests but with one concentrated area.				
5. Quick to recognize relationships and understand meanings.				
6. Expresses himself well in writing and speaking.				
7. Is willing to spend time beyond the usual assignments or schedule of things that interest him/her.				
8. Spends much time on special projects of his own, such as constructing, collecting, and writing.				
9. Tendency to figure out what is wrong with an activity and shows how it can be done better.				
10. Tendency to give refreshing twists even to old ideas.				
11. Likes to solve puzzles and trick questions.				
12. Usually gets good marks.				
13. Impatient with routing procedures and drills.				
14. Other students tend to turn to him for ideas and suggestions when something must be decided.				
15. Reads widely and finds satisfaction in thinking about and discussing what has been read.				

TEACHER EVALUATIONS OF CREATIVITY

Teacher_____ Grade_____

School_____ Date_____

1. Which children in your class are the most fluent in the production of ideas? These are children who seem to be "just running over with ideas," though not always the most talkative. Some of their ideas may not be of high quality.

1. _____ 4. _____
2. _____ 5. _____
3. _____

Which are the least fluent?

1. _____ 4. _____
2. _____ 5. _____
3. _____

2. Which children in your class are the most flexible in their thinking and in the production of ideas? When one plan or procedure fails, they come up immediately with a different approach. They employ a variety of strategies or approaches in solving problems. They readily abandon unproductive approaches although they do not abandon the goal; they simply find some other way of achieving the goal.

1. _____ 4. _____
2. _____ 5. _____
3. _____

Which are the least flexible?

1. _____ 4. _____
2. _____ 5. _____
3. _____

3. Which children in your class are the most original in their thinking? They are able to get away from the obvious and common-place and break away from the beaten path. They see relationships and think of ideas and solutions which are different from others in the class and from the textbook. Many, though not all, of their ideas prove to be useful. Some of their ideas are quite surprising, though true.

1. _____ 4. _____
2. _____ 5. _____
3. _____

Which are the least original?

1. _____ 4. _____
2. _____ 5. _____
3. _____

4. Which children in your class are the best in elaborating ideas? They are able to take an idea or a task and spell out the detail. They can take a simple idea and "embroider" it or make it fancy and attractive. Their drawings are very detailed and they are able to develop very detailed or thorough plans for projects.

1. _____ 4. _____
2. _____ 5. _____
3. _____

Which are least able to elaborate?

1. _____ 4. _____
2. _____ 5. _____
3. _____

Torrance Scoring Manual
for Torrance Test of
Creative Thinking

APPENDIX B

LISTS OF CHARACTERISTICS OF GIFTED/TALENTED STUDENTS

GENERAL CHARACTERISTICS OF GIFTED/TALENTED CHILDREN

They typically learn to read earlier with a better comprehension of the nuances of the language. As many as half of the gifted and talented population have learned to read before entering school. They often read widely, quickly, and intensely and have large vocabularies.

They commonly learn basic skills better, more quickly, and with less practice.

They are better able to construct and handle abstractions than their age mates.

They are frequently able to pick up and interpret nonverbal cues and can draw inferences which other children have to have spelled out for them.

They take less for granted, seeking the "hows" and "whys".

They display a better ability to work independently at an earlier age and for longer periods of time than other children.

They sustain longer periods of concentration and attention.

Their interests are often both widly eclectic and intensely focused.

They frequently have seemingly boundless energy, which sometimes leads to a misdiagnosis of "hyperactive."

They are usually able to respond and relate well to parents, teachers, and other adults. They may prefer the company of older children and adults to that of their peers. (Clendening and Davies, 1980, p. 14).

LEARNING CHARACTERISTICS

Gifted and talented children often show keen powers of observation, exhibit a sense of the significant, and have an eye for important details.

They often read a great deal on their own, preferring books and magazines written for youngsters older than themselves.

They take great pleasure in intellectual activity.

They have well developed powers of abstraction, conceptualization, and synthesing abilities.

They have rapid insight into cause-effect relationships.

They tend to like structure, organization, and consistency in their environments. They may resent the violation of structure and rules.

They display a questioning attitude and seek information for the sake of having it as much as for its instrumental value.

They are often skeptical, critical, and evaluative. They are quick to spot inconsistencies.

They often have a large storehouse of information regarding a variety of topics which they can recall quickly.

They show a ready grasp of underlying principles and can often make valid generalizations about events, people, or objects.

They readily perceive similarities, differences, and anomalies.

They often attack complicated material by separating it into its components and analyzing it systematically.

They have a well developed common sense. (Clendening and Davies, 1980, p. 15).

BEHAVIORAL CHARACTERISTICS

They are willing to examine the unusual and are highly inquisitive.

Their behavior is often well organized, goal directed, and efficient with respect to tasks and problems.

They exhibit an intrinsic motivation to learn, find out, or explore and are often very persistent. "I'd rather do it myself" is a common attitude.

They enjoy learning new things and new ways of doing things.

They have a longer attention and concentration span than their peers.

They are more independent and less subject to peer pressure than their age mates. They are able to be conforming or nonconforming as the situation demands.

They have a highly developed moral and ethical sense.

They are able to integrate opposing impulses, such as constructive and destructive behavior.

They often exhibit daydreaming behavior.

They may seek to conceal their abilities so as not to "stick out."

They often have a well developed sense of self and a realistic idea about their capabilities and potential. (Clendening and Davies, 1980, p. 15).

CHARACTERISTICS OF THE INTELLECTUALLY GIFTED

The following characteristics are often found in various combinations in students who are intellectually gifted. This list is adapted from May V. Seagoe, Professor of Education, University of California at Los Angeles.

Characteristics	Concomitant Problem
1. Keen power of observation; sense of the significant; willingness to examine the unusual	1. Possible gullibility
2. Power of abstraction, conceptualization, synthesis; pleasure in intellectual activity	2. Occasional resistence to direction; rejection of or inattention to detail
3. Interest in cause-effect relations, ability to see relationships; interests in applying concepts	3. Difficulty in accepting the illogical.
4. Liking for structure, order, and consistency, as in value, time and number	4. Invention of systems, sometimes conflicting with existing systems
5. Superior memory or early mastery of foundations skills	5. Dislike for routine and and drill
6. Verbal proficiency; large vocabulary and facility in expression	6. Escape into verbalism
7. Interest in reading; breadth of information in advanced areas	7. Need for specialized reading vocabulary
8. Questioning attitude, intellectual curiosity, inquisitive mind; intrinsic motivation, preference for independent work	8. Seen as resistant to authority

Characteristics	Concomitant Problem
9. Power of critical thinking; skepticism; evaluative testing;	9. Critical attitude toward self and others
10. Creativeness and inventiveness; liking for new ways of doing things; interest in creating, brainstorming, freewheeling	10. Rejection of the known; need to invent for oneself
11. Power of concentration; persistent, goal-directed	11. Resistance to interruption; stubborness
12. Heightened sensitivity and intuitiveness	12. Sensitivity to criticism; vulnerability to the peer group; inability to cope
13. High energy, alertness, eagerness	13. Frustration with inactivity and absence of progress
14. Versatility and virtuosity; diversity of interests and abilities; many hobbies	14. Difficulty in conforming to group expectations; need for help in exploring and developing interests.

CHARACTERISTICS OF ACADEMICALLY TALENTED STUDENTS

1. Superior physique as demonstrated by above-average height, weight, and coordination endurance, and general health.
2. Longer attention span.
3. Learns rapidly, easily, and with less repetition.
4. Learns to read sooner and continues to read at a consistently more advanced level.
5. More mature in the ability to express himself through the various communicative skill.
6. Reaches higher levels of attentiveness to his environment.
7. Asks more questions and really wants to know the causes and reasons for things.
8. Likes to study some subjects that are difficult because he enjoys the learning.
9. Spends time beyond the ordinary assignments or schedule on things that are of interest to him.
10. Knows about many things of which other children are unaware.
11. Is able to adapt learning to various situations somewhat unrelated in orientation.
12. Reasons out more problems since he recognizes relationships and comprehends meanings.
13. Analyzes quickly mechanical problems, puzzles, and trick questions.
14. Shows a high degree of originality and often uses good but unusual methods or ideas.
15. Possesses one or more special talents.
16. Is more adept in analyzing his own abilities, limitations, and problems.
17. Performs with more poise and can take charge of the situation.
18. Evaluates facts and arguments critically.
19. Has more emotional stability.
20. Can judge the abilities of others.
21. Has diverse, spontaneous, and frequently self-directed interests. (Taylor, 1962, p. 43).

CREATIVE CHARACTERISTICS

They are fluent thinkers, able to produce a large quantity of possibilities, consequences, or related ideas.

They are flexible thinkers, able to use many different alternatives and approaches to problem solving.

They are original thinkers, seeking new, unusual, or unconventional associations and combinations among items of information. They also have an ability to see relationships among seemingly unrelated objects, ideas, or facts.

They are elaborative thinkers, producing new steps, ideas, responses, or other embellishments to a basic idea, situation, or problem.

They show a willingness to entertain complexity and seem to thrive in problem situations.

They are good guessers and can construct hypotheses or "what if" questions readily.

They often are aware of their own impulsiveness and the irrationality within themselves and show emotional sensitivity.

They have a high level of curiosity about objects, ideas, situations, or events.

They often display intellectual playfulness, fantasize, and imagine readily.

They can be less intellectually inhibited than their peers in expressing opinions and ideas and often exhibit spirited disagreement.

They have a sensitivity to beauty and are attracted to aesthetic dimensions. (Clendening and Davies, 1980, p. 14).

TRAITS COMMON IN HIGHLY CREATIVE STUDENTS

He (or she) asks many questions, often challenging the teacher and the textbook.

He fools around a lot with whatever is at hand.

His work tends to be off the beaten track, with much humor and playfulness.

He is often bored with recitation and memorization of facts; he prefers talking about ideas and problems.

He has a reputation among students and teachers for his wild and silly ideas.

He has much energy, which gets him into trouble at times.

He feels strongly about many things and often expresses his feelings.

On examinations, he sometimes comes up with unexpected, even "smart-alecky" answers.

He likes to work alone.

He is resented by some children because of his crazy ideas and his forcefulness in presenting and pushing them.

He does not usually appear to be working hard, but he does fairly well at examination time.

On special projects, he shows unusual capacity for originality, concentration, and just plain hard work. (Taylor, 1962, p. 53.

LEADERSHIP SKILLS

Ability to stimulate others.

Ability to organize other persons.

Ability to recognize skills and abilities possessed by others.

Ability to interact with others easily.

Ability to recognize and state the goals and objectives of a group.

Ability to differentiate responsibility among several persons.

Ability to state a group problem clearly.

Ability to articulate ideas.

Ability to listen to others.

Ability to understand how groups function.

Ability to give directions clearly and effectively.

Ability to exercise responsibilities dependably.

Ability to use social skills.

Ability to play nonleadership roles within a group.

Ability to establish a mood in a group.

Ability to summarize.

Ability to perceive and articulate unstated feelings of a group.

Ability to use social etiquette.

Ability to support members of a group when needed.

Ability to coordinate work of several individuals.

Ability to get along with a wide variety of individuals. (Taylor, 1962, p. 55).

CHARACTERISTICS OF THE GIFTED CHILD

I. Grasps and retains knowledge	1. comprehends meanings 2. responds quickly and accurately 3. questions critically 4. transfers learnings to new situations
II. Conveys ideas effectively	1. follows logical sequence and order 2. has extensive vocabulary and uses it appropriately 3. is selective 4. is critical 5. is fluent
III. Shows skill in abstract thinking	1. makes generalizations 2. senses cause and effect 3. recognizes relationships 4. can understand and apply rules 5. foresees new possibilities
IV. Uses wide variety of resources	1. is versatile 2. is self-reliant when meeting problems 3. is ingenious in knowing when, where, and how to seek help
V. Has creative and inventive power	1. shows curiosity and originality 2. is alert to possibilities 3. enjoys experimentation 4. uses trial and error method 5. finds ways to extend his ideas
VI. Exhibits power to work independently	1. shows ability to plan 2. shows ability to organize 3. shows ability to execute 4. shows ability to judge
VIII. Adjusts easily to new situations	1. understands and accepts reasons for change 2. anticipates outcomes 3. maintains optimistic attitude toward new adventures 4. is challenged by new ideas
IX. Has physical competence	1. is alert 2. is active 3. is energetic 4. is free of nervous tensions 5. is generally healthy
X. Appreciates social values	1. senses right and wrong 2. respects the rights of others 3. is willing to share 4. contributes constructively to group activities. 5. maintains spurts of growth and changes in attitudes and behavior 6. is conscientious and truthful

XI. Establishes favorable relationships

1. has self-respect
2. has permanence of mood
3. has sense of humor
4. is friendly, helpful and cooperative

APPENDIX C

EXAMPLES OF PROGRAMS FOR GIFTED/TALENTED STUDENTS

PROGRAMS FOR ACADEMICALLY GIFTED AND TALENTED

Hunter College Elementary School, New York 21, New York

Hunter College Elementary School is a public nursery, kindergarten, and six-year elementary school connected with Hunter College in New York City. It has an enrollment of 450 pupils and a faculty of 23. It is an experimental laboratory school for the education of gifted children and the training of teachers for the gifted. The emphasis in the curriculum is on enrichment, provided both in the regular classroom subjects and in the special activities. A minimum IQ score of 130 is required, as well as a high achievement score, for admission to the school.

Some of the goals set up by the school include: sound mental and physical health, learning to become economically competent, developing skills in social relationships, and understanding the role of world citizenship.

The school follows the Course of Study for New York schools as a minimum. Enrichment beyond this is planned by the Hunter staff and takes many forms. Life in the classroom tends to be informal, with a workshop atmosphere prevailing, but self-discipline and responsibility are stressed. Much learning is achieved through direct experiencing both within the classroom and several activities outside the classroom. The students play a major role in the planning and carrying out of their part in several activities.

Birmingham Public Schools, Birmingham, Alabama

This program provides for its superior children by means of special classes with an enriched curriculum and by individualized instruction in conventional classes. The officially organized special classes involve 110 children and 3 teachers in 2 elementary schools.

The students qualify for the program by receiving teacher and principal recommendations, having an IQ of 120 or above, scoring high on achievement tests, having good physical health and parents' consent.

Students participate extensively in the planning and carrying-out of the class activities, and cooperative projects as well as individual work are featured.

Provision for superior children is also made in regular classrooms, but the program is not so clearly defined as in the enrichment classes. Efforts are made, through special assignments, extracurricular activities, and the development of units of work, to provide the gifted child with a program that will keep him working at a pace commensurate with his abilities.

The Study of Mathematically Precocious Youth (SMPY)--John Hopkins University

The study of Mathematically Precocious Youth (SMPY) began officially at the John Hopkins University in September 1971 under a five-year grant from the Spencer Foundation. Its staff, headed by

Professor (of psychology) Julian C. Stanley, seeks highly effective ways to facilitate the education of youths who reason extremely well mathematically.

This program is developmental and longitudinal, but not retrospective. It is an excellent example for gifted students. The program is built around the D's:

1. Discovery--identifying the gifted students;
2. Description--further testing and otherwise studying of students; and
3. Developmental--the prime reason for the program. During this phase, the youths who were found and studied are continually helped, facilitated, and encouraged.

Some of the benefits to SMPY participants are listed below:

1. Increased zest for learning and life, reduced boredom to school, and therefore a better attitude toward education and other activities;
2. Enhanced feelings of self-worth and accomplishment;
3. Reduction of egotism and arrogance; and
4. Getting into college, graduate school, and a profession earlier, thus having more time and energy for creative pursuits.

Project SOCRATES: Program for the Academically Gifted, Grades 4-5

Project SOCRATES is a program for academically talented 4th and 5th grade students in Paris, Texas. The four main areas of learning are problem solving, creative thinking, evaluation, leadership, and ability to adjust to change.

The handbook describes the philosophy, goals, and objectives of the school system for this program. It also describes the criteria used to choose the participants in Project SOCRATES. They are identified as those children who have outstanding abilities and are capable of high performance 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, and
6. Psychomotor ability.

The objective test scores which are used are the Otis-Lennon Mental Ability Test and the School and College Ability Tests. The top 30 students in grades 4 and 5 are then selected. After teacher verification of student performance in the classroom, the parents then decide if their child will participate in the program.

The students are pulled out of their regular classes one day per week to attend classes in the Project SOCRATES Program. The classes are taught by one teacher who has an aid. Classes are taught four days a week, and Friday is used by the teacher for planning and conferences. The program is basically one of individualized instruction with the students having input into the areas which they study.

A Model Summer Program for Gifted Children

One belief shared by nearly all educators is that gifted children develop best under "conditions of constant, stimulating challenge." A summer program developed by the Houston Independent School District to enhance learning by gifted students is the Vanguard Program.

The program described here was a "theme-based, three-week session for identified gifted children, grades 2-5." There were 52 students with 60% white, 40% black, and 10% Mexican-American.

The theme of the program was "A Look to the Future." The basic purpose was for groups of students to actually construct a part of a future world.

Each child had time each day to participate in individual interest activities and the core, or group activity. Seminar activities included trips to the NASA Manned Spacecraft Center and Houston City Hall and visits from resource persons from Gulf Oil Company, University of Houston Solar Energy Department, and Southwestern Bill Research Laboratory.

This program was deemed a success by both students and teachers. Such a program is felt to provide the "continuous stimulation and challenge so necessary for the full development of the gifted child." It was recommended that programs of this nature be continued.

APPENDIX D

RESEARCH MATERIALS

Route 7, Box 240
Lenoir City, TN 37771
July 27, 1983

Hello,

I am Nancy Marcus, and I need your help to complete my dissertation at The University of Tennessee, Knoxville. One part of my dissertation is to evaluate the academically talented program in which you are involved.

In order to complete my evaluation, I am asking that you please answer the enclosed questionnaire and return it to the administrator by September 1, 1983.

Your cooperation is greatly appreciated.

Sincerely yours,

Nancy Marcus

ACADEMICALLY TALENTED PROGRAMS

Listed below are proposed goals for the academically talented programs chosen for this study. I would appreciate your frank response as to how important you feel each goal is, and how well you feel each goal is currently being accomplished.

Please check your response for each column for each goal and statement below. Thank you.

GOALS	Degree of Importance					Extent of Accomplishment				
	Very Important 5	Important 4	Undecided 3	Unimportant 2	Very Unimportant 1	Very Satisfactory 5	Satisfactory 4	Insufficient Info. 3	Unsatisfactory 2	Very Unsatisfactory 1
1. Students will be given the opportunity to participate in enrichment activities.										
2. Students will develop the ability to think creatively.										
3. Students will be able to take part in activities that cannot be offered in the regular classroom.										
4. Students will develop the ability to think critically.										
5. Students will practice developing better skills for communication.										
6. Students will practice leadership qualities.										
7. Students will practice being able to solve problems both independently and within a group.										
8. Students will develop a greater interest in school.										
9. Students will learn to cooperate with classmates.										

	Degree of Importance					Extent of Accomplishment				
	5 Very Important	4 Important	3 Undecided	2 Unimportant	1 Very Unimportant	5 Very Satisfactory	4 Satisfactory	3 Insufficient Info.	2 Unsatisfactory	1 Very Unsatisfactory
10. Students will be challenged to develop special talents or skills that they possess										
11. Students will be encouraged to try new ideas and methods to accomplish their goals.										
12. Students will develop respect for their abilities in relationships with other students in the program and also students not in the program.										
13. Students will be given the oportunity to explore new ideas in areas such as science and literature.										
14. Students will be encouraged to gather and interpret information.										
15. Each student will be stimulated to practice evaluative thinking.										
IMPLEMENTATION OF PROGRAM										
16. The program is beneficial to the overall school organization										
17. The program is supported by the teachers.										

	Degree of Importance					Extent of Accomplishment				
	5 Very Important	4 Important	3 Undecided	2 Unimportant	1 Very Unimportant	5 Very Satisfactory	4 Satisfactory	3 Insufficient Info.	2 Unsatisfactory	1 Very Unsatisfactory
18. The students are chosen by objective methods to participate in the program										
19. The concepts or ideas taught and the methods of presentation used would not be practicable in the regular classroom setting.										
20. The teachers who participate in the program are selected because they use creative, innovative, and stimulating methods of teaching in their regular classrooms.										
21. The program should be expanded and include more teachers and students.										
22. The program should remain the same.										
23. The program should have fewer teachers and students.										
24. The program does not interfere with regular classroom activities.										
25. The overall school organization would benefit if the program were discontinued.										

	Degree of Importance					Extent of Accomplishment				
	5 Very Important	4 Important	3 Undecided	2 Unimportant	1 Very Unimportant	5 Very Satisfactory	4 Satisfactory	3 Insufficient Info.	2 Unsatisfactory	1 Very Unsatisfactory
26. The students are proud to be in the program.										
27. The students resent the extra work required of them in the program.										
28. The teachers are proud to work in the program.										
29. The teachers share in the planning and scheduling of the program.										
30. The teachers are provided adequate time to prepare materials and presentations for the program.										
31. The program was initiated by the administrator and the teachers are told what to do.										
32. The program was initiated and planned by equally interested administrators and teachers.										
33. Adequate methods are used to evaluate the program.										
34. Future plans for the program are based on evaluations received from parents, students, and teachers.										
35. The program has helped the teachers to develop more creative methods of teaching and stimulating the students.										

Please respond to the following questions as fully as time permits with one, two, or three short answers which reflect your attitude toward the program.

1. In what ways do you feel that your program develops creativity?

2. In what ways do you feel that your program develops critical thinking skills?

3. In what ways do you feel that your program develops communication skills?

4. In what ways do you feel that your program enriches the educational experiences of the students in the program?

5. In what ways do you feel that your program increases the students' interests and liking for school?

6. List two or more strengths of the program.

7. List two or more concerns that you have about the program.

8. List two or more aspects of the present program that you would like to see changed, and how you would change them.

9. Do you feel that your program has been successful in accomplishing its goals?

   Yes_____ No_____

   Why or why not?

10. In what ways do you feel that the teachers show that they are genuinely interested in the program and work to make it successful?

ACADEMICALLY TALENTED PROGRAMS

Listed below are statements about the talented program which you are in, in your school. Please read these carefully and mark the answer that you most agree with in each of the columns. If you need help to understand a question or statement, ask your parent or teacher. Please mark how you honestly feel about each statement. Thank you.

GOALS OF THE PROGRAM	How Important is This?					How Well Has This Been Done?				
	5 Very Important	4 Important	3 Undecided	2 Unimportant	1 Very Unimportant	5 Extremely Well	4 Satisfactory	3 Not Enough Info.	2 Unsatisfactory	1 Very Unsatisfactory
1. The program has made it possible for me to take part in extra activities.										
2. In the program, I have been enouraged to think creatively.										
3. I have had learning experiences in the program which I could not have had in the regular classroom setting.										
4. Activities that I have done in the program have helped me to think critically to solve problems.										
5. The program has helped me to learn better communication skills.										
6. In the program, I have developed leadership qualities.										
7. In the program I have practiced activities that have helped me to solve problems both by myself and with my classmates.										
8. The program has caused me to develop a greater interest in school.										

	How Important Is This?					How Well Has This Been Done?				
	5 Very Important	4 Important	3 Undecided	2 Unimportant	1 Very Unimportant	5 Extremely Well	4 Satisfactory	3 Not Enough Info.	2 Unsatisfactory	1 Very Unsatisfactory
9. Activities in the program have taught me ways to cooperate more with my classmates.										
10. In the program, I have been challenged to deveop a special interest or talent that I have.										
11. In the program, I have been encouraged to try new ideas and methods to solve problems or answer questions.										
12. Being in the program has helped me to learn to respect any abilities that I have in relationships with other students in the program, and also with students not in the program.										
13. The program has offered me ways to explore new ideas in science and reading.										
14. In the program, I have been encouraged to gather and interpret information.										
15. Activities in the program have taught me to practice evaluative thinking.										
STATEMENTS ABOUT PROGRAMS										
16. The program has helped, or improved, my school.										
17. The program is supported by the teachers.										

	How Important is This?					How Well Has This Been Done?				
	5 Very Important	4 Important	3 Undecided	2 Unimportant	1 Very Unimportant	5 Extremely Well	4 Satisfactory	3 Not Enough Info.	2 Unsatisfactory	1 Very Unsatisfactory
18. The students are chosen by objective methods to be in the program.										
19. The subjects I have studied and the ways they were taught could not be used in my regular classroom.										
20. The teachers seem to be glad to be in the program.										
21. The program should be larger and have more teachers and students.										
22. The program should stay the same.										
23. The program should have fewer teachers and students.										
24. The program does not interfere with regular classroom activities.										
25. My school would be better if we did not have the program at all.										
26. I am proud to be in the program.										
27. I resent, or do not like, the extra work that I have to do in the program.										
28. The teachers are proud to work in the program.										

Please answer the following questions as well as possible to show how you feel about the program.

1. In what ways do you feel that your program has helped you to be creative?

2. In what ways do you feel that your program has helped you to develop critical thinking skills?

3. In what ways do you feel that your program has helped you to develop communication skills?

4. In what ways do you feel that your program has added to your learning experiences in school?

5. In what ways do you feel that your program has increased your interest in school and helped you to like school more?

6. Tell one or two things you like most about the program.

7. Tell one or two things that you do not like about the program.

8. List one or two things that you would like to change about the program, and tell how you would change them.

9. Do you feel that the program has helped you in any way in school?

   Yes_____ No_____

   Why or why not?

10. In what ways do you feel that the teachers show that they are really interested in the program and work to make it successful?

QUESTIONS FOR PERSONAL INTERVIEWS?

Introduction--set informal atmosphere and explain again why this interview is taking place.

1. Why, in your opinion, was this program developed for your school, or system?

   ex. What were the needs assessments?

2. Who, in your opinion, was responsible for initiating this program? Was there adequate representation from teachers, parents and students?

3. What do you feel are the factors that determine if this program will be continued? Do you agree with this?

   Why or why not?

4. Can you tell me some of the goals of the program?

   a. How were these goals determined? Were the teachers, parents and students involved?

   b. Do you agree with these goals? Why or why not?

5. Using the goals in the last question, how well do you think each of these has been accomplished?

   a. What methods or activities were used to teach these goals?

   b. Do you believe that these methods could be improved?

6. How were the teachers chosen for this program?

   Do you believe this is the best method of selection? Why or why not?

7. How were the students identified to participate in the program?

   a. Do you feel that these criteria were adequate?

   b. In your opinion were some qualified students missed?

   c. In your opinion, were there too many students identified to be in the program?

8. What, do you feel, are the strong points of this program for talented students?

9. Do you feel that there are any changes that should be made in this program?

   If so, what are they?

10. Would you personally like to see the program:

   a. expanded?

   b. stay the same?

   c. decreased?

   d. discontinued?

   Why or why not?

APPENDIX E

DATA OBTAINED FROM SURVEY

Table 1. Number and Percent of Responses for Each Statement in Regard to Degree of Importance and Extent of Accomplishment as Perceived by (A/T) Administrators/Teachers, (P) Parents, and (S) Students of Program A.

AREA OF CONCERN (A/C):

1. Written Goals & Objectives
2. Identification of Students
3. Teaching Strategies
4. Content Taught
5. Qualifications of Teachers
6. Evaluation Procedures

DEGREE OF IMPORTANCE (D/I)

1 = Very Unimportant
2 = Unimportant
3 = Undecided
4 = Important
5 = Very Important

EXTENT OF ACCOMPLISHMENT (E/A)

1 = Very Unsatisfactory
2 = Unsatisfactory
3 = Insufficient Information
4 = Satisfactory
5 = Very Satisfactory

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
1. Students will be given the opportunity to participate in enrichment activities	1 3 4	A/T	D/I							3	37.5	5	62.5	8	100.0
		P		1	2.6			2	5.3	11	52.4	10	47.6	21	100.0
		S								7	18.4	28	73.7	35	92.2
		A/T	E/A					1	12.5	1	12.5	6	75.0	7	87.5
		P		1	4.8			4	19.1	9	42.9	7	33.3	16	76.2
		S				1	2.6	2	5.3	3	7.9	32	84.2	35	92.2
2. Students will develop the ability to think creatively	1 3 4	A/T	D/I							1	12.5	7	87.5	8	100.0
		P								2	9.5	19	90.5	21	100.0
		S				1	2.6	1	2.6	8	21.1	28	73.7	36	94.8
		A/T	E/A					1	12.5	5	62.5	2	25.0	7	87.5
		P		1	4.8			4	19.1	7	33.3	9	42.9	16	76.2
		S						3	7.9	6	15.8	29	76.3	35	92.2
3. Students will be able to take part in activities that cannot be offered in the regular classroom setting	1 3 4	A/T	D/I					1	4.8	1	12.5	7	87.5	8	100.0
		P				1	2.6	4	10.5	9	42.9	11	52.4	20	95.2
		S								4	10.5	29	76.3	33	86.8
		A/T	E/A							2	25.0	6	75.0	8	100.0
		P		1	4.8	1	4.8	4	19.1	9	42.9	6	28.6	25	71.5
		S				1	2.6	2	5.3	4	10.5	31	81.6	35	92.2
4. Students will develop the ability to think critically	1 3 4	A/T	D/I							1	12.5	7	87.5	8	100.0
		P						1	4.8	8	38.1	12	57.1	20	95.2
		S						4	10.5	5	13.2	29	76.3	34	89.5
		A/T	E/A					1	12.5	5	62.5	2	25.0	7	87.5
		P		1	4.8			6	28.6	11	52.4	3	14.3	14	66.7
		S				1	2.6	2	5.3	8	21.1	27	71.1	35	92.2

Table 1. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
5. Students will practice developing better skills for communication	1	A/T	D/I							1	12.5	7	87.5	8	100.0
	3	P								5	23/8	16	76.2	21	100.0
	4	S						3	7.9	6	13.2	30	79.0	35	92.2
		A/T	E/A	1	4.8			1	12.5	3	37.5	4	50.0	7	87.5
		P						5	23.8	7	33.3	5	23.8	12	57.1
		S						3	7.9	5	13.2	30	79.0	35	92.2
6. Students will practice leadership qualities	1	A/T	D/I							4	50.0	4	50.0	8	100.0
	3	P						1	4.8	9	42.9	11	52.2	20	95.2
	4	S		1	2.6			2	5.3	6	15.8	29	76.3	35	92.2
		A/T	E/A	1	4.8	1	4.8	1	12.5	5	62.5	2	25.0	7	87.5
		P						9	42.9	7	33.3	3	14.3	10	47.6
		S				1	2.6	4	10.5	6	15.8	27	71.1	33	86.8
7. Students will practice being able to solve problems both independently and within a group	1	A/T	D/I									8	100.0	8	100.0
	3	P								3	14.3	18	85.7	21	100.0
	4	S		1	2.6	1	2.6	3	7.9	4	10.5	29	76.3	33	86.8
		A/T	E/A	1	4.8					5	62.5	3	37.5	8	100.0
		P						7	33.3	6	28.6	7	33.3	13	61.9
		S		2	5.3	1	2.6	4	10.5	6	15.8	25	65.8	31	81.6
8. Students will develop a greater interest in school	1	A/T	D/I							1	12.5	7	87.5	8	100.0
		P								4	19.1	17	81.0	21	100.0
		S		3	7.9			4	10.5	4	10.5	27	71.1	31	81.6
		A/T	E/A	1	4.8	2	9.5	2	9.5	5	62.5	3	37.5	8	100.0
		P								6	28.6	10	47.6	16	76.2
		S		4	10.5					6	15.8	28	73.7	34	89.5
9. Students will learn go cooperate with classmates	1	A/T	D/I							2	25.0	6	75.0	8	100.0
	3	P						1	4.8	3	14.3	17	81.0	20	95.2
		S				1	2.6	1	2.6	3	7.9	33	86.8	36	94.7
		A/T	E/A	1	4.8			1	12.5	4	50.0	3	37.5	7	87.5
		P						6	28.6	6	28.6	8	38.1	14	66.7
		S		2	5.3	2	5.3	1	2.6	7	18.4	26	68.4	33	86.8
10. Students will be challenged to develop special talents or skills that they possess	1	A/T	D/I	1	12.5					2	25.0	5	62.5	7	87.5
	3	P								2	9.5	19	90.5	21	100.0
	4	S		1	2.6			4	10.5	5	13.2	28	73.7	33	86.8
		A/T	E/A	1	4.8	1	4.8	1	12.5	5	62.5	2	25.0	7	87.5
		P						7	33.3	5	23.8	7	33.3	12	57.1
		S		3	7.9	1	2.6	2	5.3	4	10.5	28	73.7	32	84.2

Table 1. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
11. Students will be encouraged to try new ideas and methods to accomplish their goals	1	A/T	D/I	1	12.5			1	12.5	1	12.5	5	62.5	6	75.0
	3	P						1	4.8	6	28.6	14	66.7	20	95.2
	4	S						3	7.9	5	13.2	30	79.0	35	92.2
		A/T	E/A	1	4.8	1	4.8	3	37.5	3	37.5	2	25.0	5	62.5
		P		2	5.3			7	33.3	6	28.6	6	28.6	12	57.2
		S						3	7.9	5	13.2	28	73.7	33	86.8
12. Students will develop respect for their abilities in relationships w/ other students in the program and also students not in program	1	A/T	D/I					1	12.5	2	25.0	5	62.5	7	87.5
	3	P								8	38.1	13	61.9	21	100.0
		S						4	10.5	4	10.5	30	79.0	34	89.5
		A/T	E/A			2	25.0	1	12.5	4	50.0	1	12.5	5	62.5
		P		2	9.5	1	4.8	7	33.3	8	38.1	3	14.3	11	52.4
		S		3	7.9			3	7.9	7	18.4	25	64.8	32	84.2
13. Students will be given the opportunity to explore new ideas in areas such as science and literature	1	A/T	D/I							2	25.0	6	75.0	8	100.0
	3	P				1	4.8	1	4.8	10	47.6	9	42.9	19	90.5
	4	S		1	2.6			1	2.6	5	13.2	31	81.6	36	94.8
		A/T	E/A							4	50.0	4	50.0	8	100.0
		P		3	14.3			5	23.8	7	33.3	6	28.6	13	61.6
		S		3	7.9			2	5.3	6	15.8	27	71.1	33	86.8
14. Students will be encouraged to gather and interpret information	1	A/T	D/I							2	25.0	6	75.0	8	100.0
	3	P						3	14.3	7	33.3	11	52.4	18	85.7
	4	S		1	2.6	2	5.3	4	10.5	4	10.5	27	71.1	31	81.6
		A/T	E/A							5	62.5	3	37.5	8	100.0
		P		1	4.8			6	28.6	7	33.3	7	33.3	14	66.6
		S		2	5.3	3	7.9	4	10.5	6	15.8	23	60.5	29	76.3
15. Each student will be stimulated to practice evaluative thinking	1	A/T	D/I					1	12.5	1	12.5	6	75.0	7	87.5
	3	P						1	4.8	6	28.6	14	66.7	20	92.5
	4	S		2	5.3			3	7.9	5	13.2	28	73.7	33	86.9
		A/T	E/A			1	12.5	2	25.0	5	62.5			5	62.5
		P		1	4.8			8	38.1	5	23.8	7	33.3	12	57.1
		S		3	7.9			2	5.3	7	18.4	26	68.4	33	86.8
16. The program is beneficial to the overall school organization	6	A/T	D/I					2	25.0	2	25.0	4	50.0	6	75.0
		P						4	19.1	5	23.8	12	57.1	17	80.9
		S				1	2.6	2	5.3	1	2.6	34	89.5	35	92.2
		A/T	E/A					2	25.0	3	37.5	3	37.5	6	75.0
		P		2	9.5			8	38.1	6	28.6	5	23.8	11	52.4
		S		1	5.3	1	2.6	1	2.6	4	10.5	30	79.0	34	89.5

Table 1. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
17. The program is supported by the teachers.	5	A/T										8	100.0	8	100.0
		P	D/I					1	4.8	2	9.5	18	85.7	20	95.3
		S						3	7.9	2	5.3	33	86.8	35	92.2
		A/T								5	62.5	3	37.5	8	100.0
		P	E/A	2	9.5			7	33.3	7	33.3	5	23.8	12	57.1
		S		2	5.3	1	2.6	2	5.3	3	7.9	33	79.0	33	86.8
18. The students are chosen by objective methods to participate in the program	2	A/T								1	12.5	7	87.5	8	100.0
		P	D/I					2	9.5	4	19.1	15	71.4	19	90.5
		S						2	5.3	3	7.9	33	86.8	36	89.5
		A/T				2	25.0	1	12.5			5	62.5	5	62.5
		P	E/A	2	9.5			4	19.1	10	47.6	5	23.8	15	71.4
		S		2	5.3			2	5.3	4	10.5	30	79.0	34	89.5
19. The concepts or ideas taught and methods of presentation used would not be practicable in the regular classroom setting	1 3 4	A/T		1	12.5	2	25.0	2	25.0	2	25.0	1	12.5	3	37.5
		P	D/I	1	4.8			13	61.9	2	9.5	5	23.8	7	33.3
		S		2	5.3	1	2.6	1	2.6	4	10.5	30	79.0	34	89.5
		A/T				1	12.5	2	25.0	4	50.0	1	12.5	5	62.5
		P	E/A	2	9.5			9	42.9	7	33.3	3	14.3	10	47.6
		S		4	10.5	2	5.3	1	2.6	3	7.9	28	73.7	31	81.6
20. Teachers who participate in program are selected because they use creative, innovative, & stimulating methods of teaching in reg. classrooms	3 5	A/T		2	25.0			2	25.0	3	37.5	1	12.5	4	50.0
		P	D/I					1	4.8	7	33.3	13	61.9	20	95.2
		S		2	5.3			2	5.3	2	5.3	32	84.2	34	89.5
		A/T		3	37.5	1	12.5	2	25.0	2	25.0			2	25.0
		P	E/A	1	4.8			9	42.9	7	33.3	4	19.1	11	52.4
		S		4	10.5			2	5.3	3	7.9	29	76.3	32	84.2
21. The program should be expanded and include more teachers and students	6	A/T		3	37.5	1	12.5	2	25.0	1	12.5	1	12.5	2	25.0
		P	D/I					12	57.1	3	14.3	6	28.6	9	42.9
		S		24	63.2	3	7.9	4	10.5	2	5.3	5	13.2	7	18.5
		A/T		4	50.0	1	12.5	1	12.5	2	25.0			2	25.0
		P	E/A	2	9.5			14	66.7	1	4.8	4	19.1	5	23.9
		S		14	36.8	2	5.3	15	39.6	2	5.3	5	13.2	7	18.5
22. The program should remain the same	6	A/T				1	12.5	3	37.5	3	37.5	1	12.5	4	50.0
		P	D/I	1	4.8	1	4.8	16	76.2	2	9.5	1	4.8	3	14.3
		S		3	7.9			3	7.9	1	2.6	31	81.6	32	84.2
		A/T		4	50.0	2	25.0			1	12.5	1	12.5	2	25.0
		P	E/A	7	33.3			12	57.1	1	4.8	1	4.8	2	9.6
		S		1	2.6	1	2.6	3	7.9	1	2.6	32	84.2	33	86.8

Table 1. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
23. The program should have fewer teachers and students	6	A/T	D/I	2	25.0			1	12.5	1	12.5	4	50.0	5	62.5
		P		6	28.6	4	19.1	10	47.6	1	4.8			1	4.8
		S		30	79.0	3	7.9	3	7.9			2	5.3	2	5.3
		A/T	E/A	3	37.5	2	25.0	2	25.0	1	12.5			1	12.5
		P		8	38.1			13	61.9					0	0.0
		S		18	47.7	2	5.3	14	36.8			4	10.5	4	10.5
24. The program does not interfere with regular classroom activities	6	A/T	D/I	1	12.5			1	12.5	3	37.5	3	37.5	6	75.0
		P		1	4.8	1	4.8	2	9.5	7	33.3	10	47.6	17	80.9
		S		12	31.6	1	2.6	1	2.6	1	2.6	23	60.5	24	63.1
		A/T	E/A	1	12.5	1	12.5			2	25.0	4	50.0	6	75.0
		P		2	9.5			6	28.6	9	42.9	4	19.1	13	62.0
		S		3	7.9	11	29.0	1	2.6	1	2.6	22	47.9	23	60.5
25. The overall school organization would benefit if the program were discontinued	6	A/T	D/I	7	87.5	1	12.5							0	0.0
		P		11	52.4	5	23.8	5	23.8					0	0.0
		S		30	79.0	1	2.6	1	2.6	1	2.6	5	13.1	6	15.8
		A/T	E/A	5	62.5	2	25.0					1	12.5	1	12.5
		P		12	57.2	1	4.8	8	38.1					0	0.0
		S		27	71.1	1	2.6	4	10.5	1	2.6	5	13.2	6	15.8
26. The students are proud to be in the program	6	A/T	D/I							2	25.0	6	75.0	8	100.0
		P				2	9.5			6	28.6	13	61.9	19	90.5
		S		1	2.6	1	2.6			1	2.6	35	92.1	36	94.7
		A/T	E/A	5	23.8					1	12.5	7	87.5	8	100.0
		P		3	7.9					3	14.3	13	61.9	16	76.2
		S						2	5.3			33	86.8	33	86.8
27. The students resent the extra work required of them in the program	6	A/T	D/I	4	50.0	1	12.5			2	25.0	1	12.5	3	37.5
		P		10	47.6	2	9.5	1	4.8	6	28.6	2	9.5	8	38.1
		S		17	44.7	2	5.3	7	18.4	1	2.6	11	29.0	12	31.6
		A/T	E/A	3	37.5	1	12.5	1	12.5	2	25.0	1	12.5	3	37.5
		P		10	47.6	1	4.8	6	28.6	2	9.5	2	9.5	4	19.0
		S		16	42.1	2	5.3	8	21.1	1	2.6	11	29.0	12	31.6
28. The teachers are proud to work in the program	5 6	A/T	D/I							3	37.5	5	62.5	8	100.0
		P						2	9.5	8	38.1	11	52.2	19	90.3
		S		1	2.6			1	2.6	4	10.5	32	84.2	36	94.7
		A/T	E/A	1	4.8			1	12.5	5	62.5	2	25.0	7	90.5
		P		4	10.5			8	38.1	7	33.3	5	23.8	12	57.1
		S						3	7.9	2	5.3	29	76.3	31	81.6

Table 1. (Continued)

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
29. The teachers share in the planning and scheduling of the program	5	A/T	D/I					1	12.5	3	37.5	4	50.0	7	87.5
	6	P				1	4.8	2	9.5	8	38.1	10	47.6	18	85.7
		A/T	E/A	1	12.5	2	25.0			3	37.5	2	25.0	5	62.5
		P		1	4.8			9	42.9	9	42.9	2	9.5	11	52.4
30. The teachers are provided adequate time to prepare materials and presentations for the program	5	A/T	D/I	1	4.7	1	4.8	4	19.1	1	12.5	7	87.5	8	100.0
	6	P								4	19.1	11	52.4	15	71.5
		A/T	E/A	2	9.5	4	50.0	2	25.0			2	25.0	2	25.0
		P						12	57.1	4	19.1	3	14.3	7	33.4
31. The program was initiated by the administrator and the teachers are told what to do	5	A/T	D/I	2	25.0	1	12.5	2	25.0	2	25.0	1	12.5	3	37.5
	6	P		6	28.6	3	14.3	10	47.6			2	9.5	2	9.5
		A/T	E/A	1	12.5			1	12.5	2	25.0	4	50.0	6	85.0
		P		4	19.1	2	9.5	14	66.7	1	4.8			1	4.8
32. The program was initiated and planned by equally interested administrators and teachers	5	A/T	D/I	2	25.0			1	12.5	1	12.5	4	50.0	5	62.5
	6	P		1	4.8			5	23.8	3	14.3	12	57.1	15	71.4
		A/T	E/A	1	12.5	1	12.5	1	12.5	5	62.5			5	62.5
		P		1	4.8			13	61.9	4	19.1	3	14.3	7	33.3
33. Adequate methods are used to evaluate the program	6	A/T	D/I	2	9.5			6	28.6	2	25.0	6	75.0	8	100.0
		P								6	28.6	7	33.3	13	61.9
		A/T	E/A	2	9.5	4	50.0	12	57.1	2	25.0	2	25.0	4	50.0
		P				1	4.8			4	19.1	2	9.5	6	28.6
34. Future plans for the program are based on evalutionns received from parents, students, and teachers	6	A/T	D/I	1	12.5			1	12.5	4	50.0	2	25.0	6	75.0
		P		2	9.5			3	14.3	7	33.3	9	42.9	16	76.2
		A/T	E/A	1	12.5	2	25.0			4	50.0	1	12.5	5	62.5
		P		3	14.3	1	4.8	6	28.6	7	33.3	4	19.1	11	52.4

Table 1. (Continued)

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
35. The program has helped the teachers to develop more creative methods of teaching and stimulating the students	3	A/T	D/I	1	12.5					1	12.5	6	75.0	7	87.5
	5	P		1	4.8			3	14.3	7	33.3	10	47.6	17	80.9
	6	S													
		A/T	E/A	1	12.5			1	12.5	4	50.0	2	25.0	6	75.0
		P		1	4.8			9	42.9	5	23.8	6	28.6	11	52.4
		S													

Table 2. Number and Percent of Responses for Each Statement in Regard to Degree of Importance and Extent of Accomplishment as Perceived by (A/T) Administrators/Teachers, (P) Parents, and (S) Students of Program B.

AREA OF CONCERN (A/C)

1. Written Goals & Objectives
2. Identification of Students
3. Teaching Strategies
4. Content Taught
5. Qualifications of Teachers
6. Evaluation Procedures

DEGREE OF IMPORTANCE (D/I)

1 = Very Unimportant
2 = Unimportant
3 = Undecided
4 = Important
5 = Very Important

EXTENT OF ACCOMPLISHMENT (E/A)

1 = Very Unsatisfactory
2 = Unsatisfactory
3 = Insufficient Information
4 = Satisfactory
5 = Very Satisfactory

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
1. Students will be given the opportunity to participate in enrichment activities	1 3 4	A/T	D/I	1	4.6			2	11.1	2	9.1	3	100.0	3	100.0
		P								10	55.6	19	86.4	21	95.5
		S										6	33.3	16	88.9
		A/T	E/A	3	13.6					3	13.6	3	100.0	3	100.0
		P								14	77.8	16	72.7	19	86.3
		S										4	22.2	18	100.0
2. Students will develop the ability to think creatively	1 3 4	A/T	D/I	3	13.6					3	13.6	3	100.0	3	100.0
		P								14	77.8	16	72.7	19	86.3
		S										4	22.2	18	100.0
		A/T	E/A	3	13.6					5	22.7	3	100.0	3	100.0
		P		2	11.1					12	66.7	14	63.6	19	86.3
		S										4	22.2	16	88.9
3. Students will be able to take part in activities that cannot be offered in the regular classroom	1 3 4	A/T	D/I	2	9.1			2	9.1	4	18.2	3	100.00	3	100.0
		P								4	22.2	14	63.6	18	81.8
		S										14	77.8	18	100.0
		A/T	E/A	3	13.6			2	9.1	4	18.2	3	100.0	3	100.0
		P								6	33.3	13	59.1	17	77.3
		S										12	66.7	18	100.0
4. Students will develop the ability to think critically	1 3 4	A/T	D/I	1	4.6					4	18.2	3	100.00	3	100.0
		P						6	33.3	4	22.2	17	77.3	21	95.5
		S										8	44.4	12	66.7
		A/T	E/A	2	9.1			1	4.6	1	33.3	2	66.7	3	100.0
		P						6	33.3	7	31.8	12	54.6	19	86.3
		S								8	44.4	4	22.2	12	66.7

Table 2. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
5. Students will practice developing better skills for communication	1	A/T								1	33.3	2	66.7	3	100.0
	3	P	D/I	2	9.1					5	22.7	15	68.2	20	90.9
	4	S						2	11.1	8	44.4	8	44.4	16	88.8
		A/T								2	66.7	1	33.3	3	100.0
		P	E/A	3	13.6			2	9.1	7	31.8	10	45.5	17	77.3
		S						2	11.1	10	55.6	6	33.3	16	88.8
6. Students will practice leadership qualities	1	A/T								1	33.3	2	66.7	3	100.0
	3	P	D/I	1	4.6	1	4.6	2	9.1	5	22.7	13	59.1	18	81.8
	4	S		2	11.1	2	11.1	4	22.2	6	33.3	4	22.2	10	55.5
		A/T								1	33.3	2	66.7	3	100.0
		P	E/A	2	9.1			5	22.7	6	27.3	9	40.9	15	68.2
		S				2	11.1	6	33.3	8	44.4	2	11.1	10	55.5
7. Students will practice being able to solve problems both independently and within a group	1	A/T								1	33.3	2	66.7	3	100.0
	3	P	D/I	3	13.6					2	9.1	17	77.3	19	86.4
	4	S				2	11.1	2	11.1	4	22.2	10	55.6	14	77.7
		A/T								1	33.3	2	66.7	3	100.0
		P	E/A	4	18.2			5	22.7	6	27.3	7	31.8	13	59.1
		S				2	11.1	4	22.2	6	33.3	6	33.3	12	66.6
8. Students will develop a greater interest in school	1	A/T						1	33.3	1	33.3	1	33.3	2	66.7
		P	D/I	3	13.6			1	4.6	5	22.7	13	59.1	18	81.8
		S		4	22.2	2	11.1	4	22.2	4	22.2	4	22.2	8	44.4
		A/T						2	66.7			1	33.3	1	33.3
		P	E/A	4	18.3			6	27.3	6	27.3	6	27.3	12	54.6
		S		4	22.2	2	11.1	6	33.3	4	22.2	2	11.1	6	33.3
9. Students will learn to cooperate with classmates.	1	A/T								2	66.7	1	33.3	3	100.0
	3	P	D/I	2	9.1			1	4.6	1	4.6	18	81.8	19	86.4
		S						6	33.3	2	11.1	10	55.6	12	66.6
		A/T						1	33.3	1	33.3	1	33.3	2	66.7
		P	E/A	3	13.6			3	13.6	6	27.3	10	45.5	16	72.8
		S				2	11.1	6	33.3	4	22.2	6	33.3	10	55.5
10. Students will be challenged to develop special talents or skills that they possess	1	A/T								1	33.3	2	66.7	3	100.0
	3	P	D/I	3	13.6			1	4.6	3	13.6	15	68.2	18	48.2
	4	S								6	33.3	12	66.7	18	100.0
		A/T								1	33.3	2	66.7	3	100.0
		P	E/A	4	18.2			3	13.6	8	36.4	7	31.8	15	48.2
		S				2	11.1	2	11.1	8	44.4	6	33.3	14	77.7

Table 2. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	T
11. Students will be encouraged to try new ideas and methods to accomplish their goals	1	A/T										3	100.0	3	100.0
	3	P	D/I	3	13.6					2	9.1	17	77.3	19	86.4
	4	S		2	11.1					6	33.3	10	55.6	16	88.9
		A/T										3	100.0	3	100.0
		P	E/A	4	18.2			3	13.6	9	40.9	6	27.3	15	68.2
		S		2	11.1			2	11.1	8	44.4	6	33.3	14	77.7
12. Students will develop respect for their abilities in relationships with other students in program and also students not in program	1	A/T				1	33.3					2	66.7	2	66.7
	3	P	D/I	3	13.6			1	4.6	3	13.6	15	68.2	18	81.8
		S		2	11.1			4	22.2	6	33.3	6	33.3	12	66.6
		A/T						1	33.3	1	33.3	1	33.3	2	66.7
		P	E/A	5	22.7			9	40.9	2	9.1	6	27.3	8	36.4
		S		2	11.1			6	33.3	6	33.3	4	22.2	10	55.5
13. Students will be given the opportunity to explore new ideas in areas such as science and literature	1	A/T										3	100.0	3	100.0
	3	P	D/I	3	13.6			1	4.6	5	22.7	13	59.1	18	81.8
	4	S						6	33.3	4	22.2	8	44.4	12	66.7
		A/T								1	33.3	2	66.7	3	100.0
		P	E/A	4	18.2			3	13.6	7	31.8	8	37.4	15	68.2
		S		2	11.1	2	11.1	4	22.2	6	33.3	4	22.2	10	55.5
14. Students will be encouraged to gather and interpret information	1	A/T										3	100.0	3	100.0
	3	P	D/I	2	9.1					1	4.6	19	86.4	21	91.0
	4	S						2	11.1	10	55.6	6	33.3	16	88.9
		A/T										3	100.0	3	100.0
		P	E/A	3	13.6			3	13.6	8	36.4	8	36.4	16	72.8
		S						2	11.1	10	55.6	6	33.3	16	88.9
15. Each student will be stimulated to practice evaluative thinking	1	A/T										3	100.0	3	100.0
	3	P	D/I	3	13.6					1	4.6	18	81.8	19	86.4
	4	S		2	11.1			6	33.3	6	33.3	4	22.2	10	55.5
		A/T								1	33.3	2	66.7	3	100.0
		P	E/A	4	18.2			8	36.4	5	22.7	5	22.8	10	45.4
		S				2	11.1	8	44.4	6	33.3	2	11.1	8	44.4
16. The program is beneficial to the overall school organization	6	A/T								1	33.3	2	66.7	3	100.0
		P	D/I	5	22.7	1	4.6	2	9.1	4	18.2	10	45.5	14	63.7
		S		2	11.1			10	55.6			6	33.3	6	33.3
		A/T								1	33.3	2	66.7	3	100.0
		P	E/A	5	22.7			4	18.2	7	31.8	6	27.3	13	59.1
		S		2	11.1			12	66.7	2	11.1	2	11.1	4	22.2

Table 2. (Continued)

Statement	A/C			1		2		3		4		5		6	
				N	%	N	%	N	%	N	%	N	%	N	%
17. The program is supported by the teachers	5	A/T										3	100.0	3	100.0
		P	D/I	1	4.6	1	4.6	1	4.6			19	86.4	19	86.4
		S		2	11.1			2	11.1	6	33.3	8	44.4	14	77.7
		A/T								2	66.7	1	33.3	3	100.0
		P	E/A	1	4.6			5	22.7	3	13.6	13	59.1	16	72.7
		S		4	22.2			6	33.3	4	22.2	4	22.2	8	44.4
18. The students are chosen by objective methods to participate in the program	2	A/T						1	33.3			2	66.7	2	66.7
		P	D/I	2	9.1	2	9.1	1	4.6	1	4.6	16	72.7	17	77.3
		S		2	11.1			6	33.3	2	11.1	8	44.4	10	55.5
		A/T						1	33.3	1	33.3	1	33.3	2	66.6
		P	E/A	2	9.1			7	31.8	4	18.2	9	40.9	13	59.1
		S				2	11.1	8	44.4	2	11.1	6	33.3	8	44.4
19. The concepts or ideas taught and the methods of presentation used would not be practicable in the regular classroom setting	1	A/T		1	33.3							2	66.7	2	66.7
	3	P	D/I	6	27.3	1	4.6	2	9.1	6	27.3	7	31.8	13	59.1
	4	S		2	11.1			8	44.4	4	22.2	4	22.2	8	44.4
		A/T		1	33.3							2	66.7	2	66.7
		P	E/A	6	27.3			8	36.4	6	27.3	2	9.1	8	36.4
		S						8	44.4	8	44.4	2	11.1	10	55.5
20. The teachers who participate in the program are selected because they use creative, innovative, and stimulating methods of teaching in reg. classrooms	3	A/T										3	100.0	3	100.0
	5	P	D/I	2	9.1							20	90.9	20	90.9
		S								6	33.3	12	66.7	18	100.0
		A/T										3	100.0	3	100.0
		P	E/A	2	9.1			3	13.6	2	9.1	15	68.2	17	77.3
		S								8	44.4	10	55.6	18	100.0
21. The program should be expanded and include more teachers and students	6	A/T						1	33.3			2	66.7	2	66.7
		P	D/I	2	9.1	2	9.1	10	45.5			8	36.4	8	36.4
		S		4	22.2			8	44.4	2	11.1	4	22.2	4	22.2
		A/T		1	33.3			1	33.3			1	33.3	1	33.3
		P	E/A	2	9.1			13	59.1			7	31.8	7	31.8
		S		4	22.2			12	66.7			2	11.1	2	11.1
22. The program should remain the same	6	A/T		1	33.3			1	33.3	1	33.3			1	33.3
		P	D/I	5	22.7			10	45.5	2	9.1	5	22.7	7	31.8
		S		2	11.1			12	66.7	2	11.1	2	11.1	4	22.2
		A/T		1	33.3			1	33.3	1	33.3			1	33.3
		P	E/A	5	22.7	1	4.6	12	54.6	1	4.6	3	13.6	4	18.2
		S		6	33.3	2	11.1	10	55.6					0	0.0

Table 2. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
23. The program should have fewer teachers and students	6	A/T		1	33.3	1	33.3	1	33.3					0	0
		P	D/I	8	36.4	1	4.6	10	45.5	1	4.6	2	9.1	3	13.7
		S		4	22.2			10	55.6	2	11.1	2	11.1	4	22.2
		A/T		1	33.3			2	66.7					0	0
		P	E/A	7	31.8	1	4.6	12	54.6			2	9.1	2	9.1
		S		6	33.3			10	55.6			2	11.1	2	11.1
24. The program does not interfere with regular classroom activities	6	A/T		1	33.3							2	66.7	2	66.7
		P	D/I	3	13.6	1	4.6			3	13.6	15	59.1	18	81.8
		S								4	22.2	14	77.8	18	100.0
		A/T				1	33.3					2	66.7	2	66.7
		P	E/A	4	18.2			4	18.2	1	4.6	13	59.1	14	63.7
		S								10	55.6	8	44.4	18	100.0
25. The overall school organization would benefit if the program were discontinued	6	A/T		3	100.0									0	0.0
		P	D/I	15	68.2	1	4.6	2	9.1			4	18.2	4	18.2
		S		8	44.4	2	11.1	6	33.3			2	11.1	2	11.1
		A/T		3	100.0									0	0
		P	E/A	16	72.7			3	13.6			3	13.6	3	13.6
		S		4	22.2			10	55.6			4	22.2	4	22.2
26. The students are proud to be in the program	6	A/T										3	100.0	3	100.0
		P	D/I	1	4.6					5	22.7	16	72.7	21	95.4
		S								6	33.3	12	66.7	18	100.0
		A/T										3	100.0	3	100.0
		P	E/A	1	4.6			2	9.1	5	22.7	14	63.6	19	86.3
		S						2	11.1	10	55.6	6	33.3	16	88.9
27. The students resent the extra work required of them in the program	5 6	A/T		3	100.0									0	0
		P	D/I	11	50.0	2	9.1	5	22.7	4	18.2			4	18.2
		S		8	44.4			8	44.4			2	11.1	2	11.1
		A/T		3	100.0									0	0
		P	E/A	7	31.8			5	22.7	4	18.2	6	27.3	10	45.5
		S		6	33.3	2	11.1	8	44.4			2	11.1	2	11.1
28. The teachers are proud to work in the program	5 6	A/T										3	100.0	3	100.0
		P	D/I	1	4.6			1	4.6	1	4.6	19	86.4	20	81.8
		S								6	33.3	12	66.7	18	100.0
		A/T										3	100.0	3	100.0
		P	E/A	1	4.6			3	13.6	2	9.1	16	72.7	18	81.8
		S						2	11.1	8	44.4	8	44.4	16	88.8

Table 2. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
29. The teachers share in the planning and scheduling of the program	5	A/T										3	100.0	3	100.0
	6	P	D/I	1	4.6					1	4.6	20	90.9	21	95.5
		S													
		A/T										3	100.0	3	100.0
		P	E/A	1	4.6			5	22.7	2	9.1	14	63.6	16	72.7
		S													
30. The teachers are provided adequate time to prepare materials and presentations for the program	5	A/T										3	100.0	3	100.0
	6	P	D/I	4	18.2			1	4.6	2	9.1	15	68.2	17	77.3
		S													
		A/T										3	100.0	3	100.0
		P	E/A	4	18.2			6	27.3	1	4.6	11	50.0	12	54.6
		S													
31. The program was initiated by the administrator and the teachers are told what to do.	5	A/T		3	100.0									0	0.0
	6	P	D/I	10	45.5			8	36.4			4	18.2	4	18.2
		S													
		A/T		3	100.0									0	0.0
		P	E/A	9	40.9			11	50.0	1	4.6	1	4.6	2	9.2
		S													
32. The program was initiated and planned by equally interested administrators and teachers	5	A/T										3	100.0	3	100.0
	6	P	D/I	5	22.7			2	9.1	2	9.1	13	59.1	15	68.3
		S													
		A/T										3	100.0	3	100.0
		P	E/A	5	22.7			5	22.7	2	9.1	10	45.5	12	54.6
		S													
33. Adequate methods are used to evaluate the program	6	A/T						1	33.3			2	66.7	2	66.7
		P	D/I	2	9.1			6	27.3	2	9.1	12	54.6	14	63.7
		S													
		A/T						1	33.3			2	66.7	2	66.7
		P	E/A	2	9.1	1	4.6	8	36.4	3	13.6	8	36.4	11	50.0
		S													
34. Future plans for the program are based on evaluations received from parents, students, and teachers	6	A/T										3	100.0	3	100.0
		P	D/I	1	4.6			4	18.2	1	4.6	16	72.7	17	77.3
		S													
		A/T										3	100.0	3	100.0
		P	E/A	1	4.6	1	4.6	8	36.4	4	18.2	8	36.4	12	54.6
		S													

Tabel 2. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
35. The program has helped the teachers to develop more creative methods of teaching and stimulating the students	3	A/T										3	100.0	3	100.0
	5	P	D/I	1	4.6			3	13.6	2	9.1	16	72.7	18	81.8
	6	S													
		A/T										3	100.0	3	100.0
		P	E/A	1	4.6			6	27.3	3	13.6	12	54.6	15	68.2

Table 3. Number and Percent of Responses for Each Statement in Regard to Degree of Importance and Extent of Accomplishment as Perceived by (A/T) Administrators/Teachers, (P) Parents, and (S) Students of Program C.

AREA OF CONCERN (A/C)

1. Written Goals & Objectives
2. Identification of Students
3. Teaching Strategies
4. Content Taught
5. Qualifications of Teachers
6. Evaluation Procedures

DEGREE OF IMPORTANCE (D/I)

1 = Very Unimportant
2 = Unimportant
3 = Undecided
4 = Important
5 = Very Important

EXTENT OF ACCOMPLISHMENT (E/A)

1 = Very Unsatisfactory
2 = Unsatisfactory
3 = Insufficient Information
4 = Satisfactory
5 = Very Satisfactory

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
1. Students will be given the opportunity to participate in enrichment activities	1 3 4	A/T P S	D/I									2 3 6	100.0 100.0 100.0	2 3 6	100.0 100.0 100.0
		A/T P S	E/A							1 1	33.3 16.7	2 2 5	100.0 66.7 83.3	2 3 6	100.0 100.0 100.0
2. Students will develop the ability to think creatively	1 3 4	A/T P S	D/I									2 3 6	100.0 100.0 100.0	2 3 6	100.0 100.0 100.0
		A/T P S	E/A							1 1 1	50.0 33.3 16.7	1 2 5	50.0 66.7 83.3	2 3 6	100.0 100.0 100.0
3. Students will be able to take part in activities that cannot be offered in the regular classroom setting	1 3 4	A/T P S	D/I							1 1 1	50.0 33.3 16.7	1 2 5	50.0 66.7 83.3	2 3 6	100.0 100.0 100.0
		A/T P S	E/A							2 1	100.0 33.3	2 6	66.7 100.0	2 3 6	100.0 100.0 100.0
4. Students will develop the ability to think critically	1 3 4	A/T P S	D/I					1	50.0			1 3 6	50.0 100.0 100.0	1 3 6	50.0 100.0 100.0
		A/T P S	E/A							2 1 2	100.0 33.3 33.3	2 4	66.7 66.7	2 3 6	100.0 100.0 100.0

Tabel 3. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
5. Students will practice developing better skills for communication	1 3 4	A/T P S	D/I							1 1	50.0 33.3	1 2 6	50.0 66.7 100.0	1 3 6	100.0 100.0 100.0
		A/T P S	E/A			1	50.0			 1 1	 33.3 16.7	1 2 5	50.0 66.7 83.3	1 3 6	50.0 100.0 100.0
6. Students will practice leadership qualities	1 3 4	A/T P S	D/I			1	50.0			1 1 2	50.0 33.3 33.3	 2 4	 66.7 66.7	1 3 6	50.0 100.0 100.0
		A/T P S	E/A							2 2 4	100.0 66.7 66.7	 1 2	 33.3 33.3	2 3 6	100.0 100.0 100.0
7. Students will practice being able to solve problems both independently and within a group	1 3 4	A/T P S	D/I					 2	 33.3	2 1	100.0 33.3	 2 4	 66.7 66.7	2 3 4	100.0 100.0 66.7
		A/T P S	E/A					1 6	50.0 100.0	1 1	50.0 33.3	 2	 66.7	1 3 0	50.0 100.0 0
8. Students will develop a greater interest in school	1	A/T P S	D/I			1	50.0	 1	 16.7	 2	 66.7	1 1 5	50.0 33.3 83.3	1 3 5	50.0 100.0 83.3
		A/T P S	E/A					1 1	50.0 16.7	 2 1	 66.7 16.7	1 1 4	50.0 33.3 66.7	1 3 5	50.0 100.0 83.3
9. Students will learn to cooperate with classmates	1 3 4	A/T P S	D/I							1	50.0	1 3 6	50.0 100.0 100.0	2 3 6	100.0 100.0 100.0
		A/T P S	E/A					1	50.0	1 1	50.0 33.3	 2 6	 66.7 100.0	1 3 6	50.0 100.0 100.0
10. Students will be challenged to develop special talents or skills that they possess	1 3 4	A/T P S	D/I					 1	 16.7	 1 1	 33.3 16.7	2 2 4	100.0 66.7 66.7	2 3 5	100.0 100.0 83.3
		A/T P S	E/A					 2	 33.3	2 1	100.0 33.3	 2 4	 66.7 66.7	2 3 4	100.0 100.0 66.7

Table 3. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
11. Students will be encouraged to try new ideas and methods to accomplish their goals	1 3 4	A/T P S	D/I							1 1	50.0 33.3	1 2 6	50.0 66.7 100.0	2 3 6	100.0 100.0 100.0
		A/T P S	E/A							1	50.0	1 3 6	50.0 100.0 100.0	2 3 6	100.0 100.0 100.0
12. Students will develop respect for their abilities in relationsuips w/ other students in the program and students not in the program	1 3	A/T P S	D/I					1	16.7	2	100.0	3 5	100.0 83.3	2 3 5	100.0 100.0 83.3
		A/T P S	E/A					1 1	50.0 16.7	1 1	50.0 33.3	2 5	66.7 83.3	1 3 5	50.0 100.0 83.3
13. Students will be given the opportunity to explore new ideas in areas such as science and literature	1 3 4	A/T P S	D/I							1	33.3	2 2 6	100.0 66.7 100.0	2 3 6	100.0 100.0 100.0
		A/T P S	E/A							1 1	33.3 16.7	2 2 5	100.0 66.7 83.3	2 3 6	100.0 100.0 100.0
14. Students will be encouraged to gather and interpret information	1 3 4	A/T P S	D/I							1 1	33.3 16.7	2 2 5	100.0 66.7 83.3	2 3 6	100.0 100.0 100.0
		A/T P S	E/A					1	16.7	1 1	33.3 16.7	2 2 4	100.0 66.7 66.7	2 3 5	100.0 100.0 83.3
15. Each student will be stimulated to practice evaluative thinking	1 3 4	A/T P S	D/I					1	16.7	1 1 1	50.0 33.3 16.7	1 2 4	50.0 66.7 66.7	2 3 5	100.0 100.0 83.3
		A/T P S	E/A							1 1 1	50.0 33.3 16.7	1 2 5	50.0 66.7 83.3	2 3 6	100.0 100.0 100.0
16. The program is beneficial to the overall school organization	6	A/T P S	D/I			1	16.7	1	16.7			2 3 4	100.0 100.0 66.7	2 3 4	100.0 100.0 66.7
		A/T P S	E/A			1	16.7	1	16.7	1	50.0	1 3 4	50.0 100.0 66.7	2 3 4	100.0 100.0 66.7

Table 3. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
17. The program is supported by the teachers	5	A/T										2	100.0	2	100.0
		P	D/I							2	66.7	1	33.3	3	100.0
		S										6	100.0	6	100.0
		A/T								1	50.0	1	50.0	2	100.0
		P	E/A							2	66.7	1	33.3	3	100.0
		S								1	16.7	5	83.3	6	100.0
18. The students are chosen by objective methods to participate in the program	2	A/T										2	100.0	2	100.0
		P	D/I							3	100.0			3	100.0
		S										6	100.0	6	100.0
		A/T								1	50.0	1	50.0	2	100.0
		P	E/A							3	100.0			3	100.0
		S						1	16.7			5	83.3	5	83.3
19. The concepts or ideas taught and methods of presentation used would not be practicable in regular classroom setting	1	A/T				1	50.0					1	50.0	1	50.0
	3	P	D/I			2	66.7	1	33.3					0	0
	4	S										6	100.0	6	100.0
		A/T						1	50.0			1	50.0	1	50.0
		P	E/A					2	66.7	1	33.3			1	33.3
		S						1	16.7			5	83.3	5	83.3
20. The teachers who participate in program are selected because they use creative, innovative, stimulating methods of teaching in reg.classrms	3	A/T										2	100.0	2	100.0
	5	P	D/I			1	33.3	2	66.7					0	0
		S										6	100.0	6	100.0
		A/T								1	50.0	1	50.0	2	100.0
		P	E/A			1	33.3	2	66.7					0	0
		S										6	100.0	6	100.0
21. The program should be expanded and include more teachers and students	6	A/T						1	50.0	1	50.0			1	50.0
		P	D/I					1	33.3			2	66.7	2	66.7
		S				1	16.7	2	33.3			3	50.0	3	50.0
		A/T		1	50.0					1	50.0			1	50.0
		P	E/A	1	33.3			2	66.7					0	0
		S						1	16.7	1	16.7	4	66.7	5	83.3
22. The program should remain the same	6	A/T				1	50.0	1	50.0					0	0
		P	D/I	1	33.3	1	33.3	1	33.3					0	0
		S		1	16.7	1	16.7					4	66.7	4	66.7
		A/T		1	50.0			1	50.0					0	0
		P	E/A	1	33.3	1	33.3	1	33.3					0	0
		S				1	16.7	1	16.7			4	66.7	4	66.7

Table 3. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
23. The program should have fewer teachers and students	6	A/T		1	50.0			1	50.0					0	0
		P	D/I	2	66.7			1	33.3					0	0
		S		4	66.7	2	33.3							0	0
		A/T		1	50.0			1	50.0					0	0
		P	E/A	2	66.7			1	33.3					0	0
		S		4	66.7	1	16.7	1	16.7					0	0
24. The program does not interfere with regular classroom activities	6	A/T								1	50.0	1	50.0	2	100.0
		P	D/I							2	66.7	1	33.3	3	100.0
		S						1	16.7			5	83.3	5	83.3
		A/T						1	50.0			1	50.0	1	50.0
		P	E/A					1	33.3	1	33.3	1	33.3	2	66.7
		S		1	16.7			1	16.7			4	66.7	4	66.7
25. The overall school organization would benefit if the program were discontinued	6	A/T		1	50.0							1	50.0	1	50.0
		P	D/I	3	100.0									0	0
		S		4	66.7							2	33.3	2	33.3
		A/T				1	50.0					1	50.0	1	50.0
		P	E/A	3	100.0									0	0
		S		4	50.0			1	16.7			2	33.3	2	33.3
26. The students are proud to be in the program	6	A/T		1	50.0					1	50.0			1	50.0
		P	D/I									3	100.0	3	100.0
		S		1	16.7							5	83.3	5	83.3
		A/T		1	50.0					1	50.0			1	50.0
		P	E/A									3	100.0	3	100.0
		S		2	33.3					1	16.7	3	50.0	4	66.7
27. The students resent the extra work required of them in the program	6	A/T		2	100.0									0	0
		P	D/I	3	100.0									0	0
		S		4	66.7							2	33.3	2	33.3
		A/T		2	100.0									0	0
		P	E/A	3	100.0									0	0
		S		4	66.7							2	33.3	2	33.3
28. The teachers are proud to work in the program	5	A/T		1	50.0			1	50.0					0	0
		P	D/I					1	33.3			2	66.7	2	66.7
		S										6	100.0	6	100.0
		A/T		1	50.0					1	50.0			1	50.0
		P	E/A					1	33.3	1	33.3	1	33.3	2	66.7
		S								1	16.7	5	83.3	6	100.0

Table 3. (Continued).

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
29. The teachers share in the planning and scheduling of the program	5	A/T	D/I	1	50.0					1	50.0			1	50.0
	6	P								2	66.7	1	33.3	3	100.0
		S													
		A/T	E/A	1	50.0					1	50.0			1	50.0
		P								3	100.0			3	100.0
		S													
30. The teachers are provided adequate time to prepare materials and presentations for the program	5	A/T	D/I	1	50.0					1	50.0			1	50.0
	6	P								2	66.7	1	33.3	3	100.0
		S													
		A/T	E/A	1	50.0					1	50.0			1	50.0
		P								3	100.0			3	100.0
		S													
31. The program was initiated by the administrator and the teachers are told what to do	5	A/T	D/I	2	100.0									0	0
	6	P		2	66.7			1	33.3					0	0
		S													
		A/T	E/A	2	100.0									0	0
		P		2	66.7			1	33.3					0	0
		S													
32. The program was initiated and planned by equally intrested administrators and teachers	5	A/T	D/I	1	50.0					1	50.0			1	50.0
	6	P						1	33.3	1	33.3	1	33.3	2	66.7
		S													
		A/T	E/A	1	50.0					1	50.0			1	50.0
		P						1	33.3	1	33.3	1	33.3	2	66.7
		S													
33. Adequate methods are used to evaluate the program	6	A/T	D/I	1	50.0					1	50.0			1	50.0
		P						2	66.7	1	33.3			1	33.3
		S													
		A/T	E/A	1	50.0					1	50.0			1	50.0
		P				1	33.3	2	66.7					0	0
		S													
34. Future plans for the program are based on evaluations received from parents, students, and teachers.	6	A/T	D/I	1	50.0					1	50.0			1	50.0
		P						2	66.7	1	33.3			1	33.3
		S													
		A/T	E/A	1	50.0					1	50.0			1	50.0
		P				1	33.3	2	66.7					0	0
		S													

Table 3. (Continued)

Statement	A/C			1		2		3		4		5		4 + 5	
				N	%	N	%	N	%	N	%	N	%	N	%
35. The program has helped the teachers to develop more creative methods of teaching and stimulating the students	3 5 6	A/T P S	D/I	1	50.0			1	33.3	1 2	50.0 66.7			1 2	50.0 66.7
		A/T P S	E/A	1	50.0	1	33.3	2	66.7	1	50.0			1 0	50.0 0

Table 4. Responses to Open-Ended Questions of Questionnaire for Administrators/Teachers, Parents and Students of Program A.

	How the Program Helped to Develop the Ability to Think Creatively	How the Program Helped to Develop the Ability to Think Critically	How the Program Has Helped in School	What Changes Would Like to See Made
Administrators/ Teachers	1. Students work independently 2. Build models 3. Students expand on ideas	1. Students answer open-ended questions 2. Group discussions 3. Solve problems independently 4. Research and report on topics	1. Program helps to increase students' interest and enthusiasm 2. Field trips 3. Have extra activities not possible in regular classroom 4. Reward for students who work hard	1. More continuity in planning to avoid repetition 2. Students given more time 3. Have fewer students in program 4. Have more input from teachers concerning planning 5. Have one teacher to teach gifted 6. Have program for gifted only, and use state guidelines 7. Have better method of evaluation
Parents	1. By doing activities that create curiosity 2. Wrote own story 3. Develop projects using own imagination 4. Encouraged to try new ideas	1. By comparing outcomes of projects 2. Solve problems 3. Group discussions	1. Motivates children 2. Enjoy activities and materials not had in regular classroom 3. Allows students with similar learning abilities to work together 4. Develops self-confidence. 5. Develops independence 6. Students have pride in being in program 7. High levels of interests in subjects in program carrying over into regular classroom	1. Have more trips 2. Method of identification 3. Have more feedback to parents 4. Decrease amount of independent work required to prepare for projects in program 5. Avoid repeating units or topics taught 6. Loss of enthusiasm by upper grades
Students	1. Presenting a play 2. Writing creative stories 3. Drawing and art activities 4. Acting out situations or role playing	1. Help to make decisions when watching TV	1. Program is fun 2. Made school more enjoyable 3. Increased interest 4. Finish work in regular classroom in order to be in program 5. Take field trips 6. Study extra topics not covered in classroom work	1. Have longer unit 2. Have more time in program

Table 5. Responses to Open-Ended Questions of Questionnaire for Administrators/Teachers, Parents, and Students of Program B.

	How the Program Helped to Develop the Ability to Think Creatively	How the Program Helped to Develop the Ability to Think Critically	How the Program has Helped in School	What Changes Would Like to See Made
Administrators/ Teachers	1. Students develop their own ideas about different projects	1. Program offers motivating topics that encourage students to think critically about subject 2. Projects offer abstract, open-ended answers	1. Students receive individual attention 2. Success in program carries over into classroom 3. Students develop better self-concept	1. Possibly change method of identification of students to participate in program 2. Have "honor" students as assistants
Parents	1. Encounter new experiences and approaches 2. Child is given opportunity and guidance to expand on new information 3. Independent study projects	1. Encouraged to develop independent thinking and to form own decision 2. Use materials other than textbooks 3. Use computers 4. Have freedom of expression	1. Taking trips 2. Using computers 3. Increased self-confidence 4. Increased interest in science	1. Decrease number of students in school 2. Decrease amount of funding by parents 3. Increase amount of time spent in program 4. Offer more subjects and extend session 5. Limit class to top 10% students
Students	1. Develop new ways of solving problems 2. Use materials available to construct objects	1. Solve problems	1. Read from resource material rather than textbook 2. Increased interest in reading 3. Field trips	None

Table 6. Responses to Open-Ended Questions of Questionnaire for Administrators/Teachers, Parents, and Students of Program C.

	How the Program Helped to Develop the Ability to Think Creatively	How the Program Helped to Develop the Ability to Think Critically	How the Program has Helped in School	What Changes Would Like to See Made
Administrators/ Teachers	1. Students develop independent work or projects to complete assignments	1. Did not do many activities for critical thinking	1. Increase interest in school 2. Extra activities	1. Better funding 2. Not miss students to be in program
Parents	1. Students are responsible for independent projects 2. Students make own models for projects	1. Discussion of good and bad aspects of certain products 2. Unit on computers	1. Give students extra experiences 2. Field trips 3. Improve students' self-confidence 4. Expose students to art	1. More time given to program
Students	1. Making floats that represent states 2. Making quilts 3. Making art exhibits	None	1. Increased interest in school	None

Table 7. Responses to Personal Interviews of Administrators/Teachers, Parents, and Students of Program A.

	Identification of Students	Methods of Instruction	Content or Curriculum	Overall Effectiveness	Evaluation
Administrators/ Teachers	- IQ test - Achievement test scores - Teacher recommendation - Could use additional instruments to improve identification methods	- Lectures - Field trips - Filmstrips and slides	- Archeology - Literature - Science - Survival skills - Math - Computer skills	- Increased interest of students in school	- Pre- and post-test for units
Parents	- IQ test - Achievement test scores - Teacher recommendation - Might have missed some students	- Lot of student activities outside class	- History - Stories	- Children enjoyed the program	- Did not have meetings - Did not have questionnaire for parents to express opinion - Could have been better
Students	- Test scores	- Teacher explaining - Take field trips - We make models - We act things out - Watch films	- Science - Stories about the West - Studied about the ocean - Studied about dinosaurs - Worked with computers	- Enjoy the program - It's fun - Makes school more interesting	- Have tests on units - Sometimes we talked about what we studied

Table 8. Responses to Personal Interviews of Administrators/Teachers, Parents, and Students of Program B.

	Identification of Students	Methods of Instruction	Content or Curriculum	Overall Effectiveness	Evaluation
Administrators/ Teachers	- Mostly teacher recommendation, based on test scores and performance in class	- Outside speakers - Students solving problems - Student activities - Field trips	- Communication skills - Computer skills - Leadership skills - Creative thinking skills - Critical thinking skills - Evaluative thinking skills	- Students developed skills taught	- Group meetings with administrators and teachers - Forms for parents
Parents	- Recommended by teacher - Test scores	- Lot of activities for the students to participate in	- Communication - Computers - History and travel	- Children enjoy the program - Learn things outside classroom	- Talk with teachers - Forms about program to fill oout
Students	- Recommended by teacher - Test scores	- Things are explained and then we do the exercise or activities - Take trips - Have speakers	- Literature/Stories - Poems - History - Communication	- Really enjoy program - Get to do a lot of extra activities - Work with computers - Get to visit interesting museums, exhibits, and factories	- Have group discussions about units - Have written forms about what we like about units

Table 9. Responses to Personal Interviews of Administrators/Teachers, Parents, and Students of Program C.

	Identification of Students	Methods of Instruction	Content or Curriculum	Overall Effectiveness	Evaluation
Administrators/ Teachers	- IQ scores - Achievement test - Teacher recommendation	- Teacher directed activities - Student activities - Field trips - Projects - Plays	- History - Literature - Home Living - Community resources - Computers	- Very good - Has given the better students a chance to express themselves	- Progress reports between administrators and teachers
Parents	- Tests - Teacher recommendation	- Field trips - Make models - Have plays - Do a lot of extra activities	- Studied the United States - Studied computers - Studied cooking - Studied about how to help people in the community	- Good for students - Students enjoyed activities	- Discuss program informally with teachers - No written evaluation
Students	- Test scores	- We get to make things - Act out parts - Work with computers - Cook things - Visit places in the community	- United States - Stories and poems - Computers - Projects	- It was fun - I liked the program a lot - I learned a lot of interesting things	- We talked about things we had studied and things we would like to study

Table 10. Percentage of Responses for Important (4) or Very Important (5) and Satisfactory (4) or Very Satisfactory (5) in Regard to Statements 1-15 for (A/T) Administrator/Teachers, (P) Parents, and (S) Students in Program A.

Group	Degree of Importance (D/I)			Extent of Accomplishment (E/A)			Difference Between % of Responses for D/I & E/A
	Possible Responses	Actual Responses	%	Possible Responses	Actual Responses	%	
A/T	120	115	95.8	120	104	86.7	33.0
P	315	304	96.5	315	200	63.5	33.0
S	570	510	89.5	570	498	87.4	2.1
TOTAL	1005	929	92.4	1005	802	79.8	12.6

Table 11. Percentage of Responses for Important (4) or Very Important (5) and Satisfactory (4) or Very Satisfactory (5) in Regard to Statements 1-15 for (A/T) Administrator/Teachers, (P) Parents, and (S) Students in Program B.

Group	Degree of Importance (D/I)			Extent of Accomplishment (E/A)			Difference Between % of Responses for D/I & E/A
	Possible Responses	Actual Responses	%	Possible Responses	Actual Responses	%	
A/T	45	43	95.6	45	39	86.7	8.9
P	330	287	87.0	330	226	68.5	18.5
S	270	204	75.6	270	190	70.4	5.2
TOTAL	645	534	82.8	645	455	70.5	12.3

Table 12. Percentage of Responses for Important (4) or Very Important (5) and Satisfactory (4) or Very Satisfactory (5) in Regard to Statements 1-15 for (A/T) Administrator/Teachers, (P) Parents, and (S) Students in Program C.

Group	Degree of Importance (D/I)			Extent of Accomplishment (E/A)			Difference Between % of Responses for D/I & E/A
	Possible Responses	Actual Responses	%	Possible Responses	Actual Responses	%	
A/T	30	27	90.0	30	25	83.3	6.7
P	45	45	100	45	45	100	0
S	90	84	93.3	90	79	87.8	5.5
TOTAL	165	156	94.5	165	149	90.3	4.2

Table 13. Percentage of Responses for Important (4) or Very Important (5) and Satisfactory (4) or Very Satisfactory (5) in Regard to the Statements Addressing Content Taught for (A/T) Administrator/Teachers, (P) Parents, and (S) Students in Program A.

Group	Degree of Importance (D/I)			Extent of Accomplishment (E/A)			Difference Between % of Responses for D/I & E/A
	Possible Responses	Actual Responses	%	Possible Responses	Actual Responses	%	
A/T	72	69	95.8	72	65	90.3	5.5
P	189	181	95.8	189	117	61.9	33.9
S	342	306	89.5	342	296	86.5	3.0
TOTAL	603	556	92.2	603	478	79.3	12.9

Table 14. Percentage of Responses for Important (4) or Very Important (5) and Satisfactory (4) or Very Satisfactory (5) in Regard to the Statements Addressing Content Taught for (A/T) Administrator/Teachers, (P) Parents, and (S) Students in Program B.

Group	Degree of Importance (D/I)			Extent of Accomplishment (E/A)			Difference Between % of Responses for DI & E/A
	Possible Responses	Actual Responses	%	Possible Responses	Actual Responses	%	
A/T	27	27	100	27	26	96.3	3.7
P	198	171	86.4	198	142	71.7	14.7
S	162	136	84.0	162	128	79.0	5.0
TOTAL	387	334	86.3	387	296	76.5	9.8

Table 15. Percentage of Responses for Important (4) or Very Important (5) and Satisfactory (4) or Very Satisfactory (5) in Regard to the Statements Addressing Content Taught for (A/T) Administrator/Teachers, (P) Parents, and (S) Students in Program C.

Group	Degree of Importance (D/I)			Extent of Accomplishment (E/A)			Difference Between % of Responses for D/I & E/A
	Possible Responses	Actual Responses	%	Possible Responses	Actual Responses	%	
A/T	18	17	94.1	18	16	88.9	5.2
P	27	27	100	27	27	100	0
S	54	47	87.0	54	44	81.5	5.5
TOTAL	99	91	92.0	99	87	87.9	4.1

APPENDIX F

THE RATING SCALE FOR THE DEVELOPMENT AND/OR ASSESSMENT OF PROGRAMS FOR GIFTED/ TALENTED STUDENTS

AREA OF CONCERN: Written goals and objectives.

CRITERION: Development of written goals and objectives which are consistent with the philosophy of the school and community.

	Very High	High	Avg.	Low	Very Low
1. This program is designed as an ongoing effort to provide for the individual differences among the students					
2. The purposes of this program are clearly stated.					
3. The written goals and objectives of this program are specifically formulated to enhance the educational opportunities offered the gifted/talented students in this program.					
4. The particular educational approaches and teaching strategies used in this program are appropriate for teaching gifted/talented students.					

AREA OF CONCERN: Identification of students.

CRITERION: Adequate screening procedures are used in the identification of students for the program.

	Very High	High	Avg.	Low	Very Low
5. The measures used to identify the students are related to the specific nature of the program (e.g., academic, music, art, etc.).					
6. A combination of criteria such as I.Q. score, creativity test scores, achievement test scores, behavior rating scales, and teacher observation are used to identify the students for this program.					
7. General screening is made on the basis of objective data, with teacher judgement serving as a supplementary, not primary, data source.					

AREA OF CONCERN: Teaching strategies.

CRITERION: Opportunities are provided for students to solve problems by developing creative, critical, and evaluative thinking skills.

	Very High	High	Avg.	Low	Very Low
8. The educational experiences offered the gifted/talented students in this program are qualitatively different from the basic curriculum.					
9. This program offers the gifted/talented students opportunities which encourage the development of high cognitive processing, i.e., analysis, synthesis, and evaluation.					

Very High	High	Avg.	Low	Very Low

10. This program offers the gifted/talented students opportunities which encourage practice in creative problem setting and solving.

11. This program offers educational settings which allow students who are gifted/talented in non-academic areas opportunities for creative experiences related to their area of talent, i.e., music, art, writing, acting, etc.

AREA OF CONCERN: Content taught.

CRITERION: Opportunities to pursue subject matter in which they can experience a personal interest.

Very High	High	Avg.	Low	Very Low

12. This program is designed to motivate the gifted/talented students to apply their natural abilities to study content that is personally interesting and challenging to them.

13. This program is designed so that the methods taught to solve problems can be applied to other areas in the students' daily lives.

14. This program is based on teaching-learning models that emphasize analyzing levels of thought and teacher-guided questions.

AREA OF CONCERN: Qualifications of teachers for gifted/talented students.

CRITERION: Appropriate criteria used to select teachers for the program.

Very High	High	Avg.	Low	Very Low

15. The teachers in this program exhibit personality traits and special interests which should enable them to work specifically with gifted/talented children.

16. The teachers in this program have completed formal instruction which has prepared them to demonstrate teaching behaviors which are conducive to guiding gifted/talented students through higher-level thinking processes and problem solving activities.

AREA OF CONCERN: Procedures used to evaluate the program.

CRITERION: Adequate measures of evaluation used to allow for continuous improvement.

	Very High	High	Avg.	Low	Very Low
17. There are explicit means to measure the extent of accomplishment of the written goals and objectives of this program.					
18. The administrators, teachers, parents, and students of this program are given the opportunity to be involved in the evaluation process.					
19. This program offers concise criteria by which formative program evaluations are made and clearly stated processes by which mandated changes may occur.					
20. This program offers concise criteria by which summative programatic evaluations are made and clearly stated processes by which mandated changes may occur.					

Scoring: The total score for the program for gifted/talented students may be obtained as follows:

1. Add the responses for each rating.
2. Enter each total and multiply to complete the chart below:

Ratings		Total Number of Responses		Points for Each Rating		Total Number of Points for Each Rating
(5) Very High	=	_____	x	5	=	_____
(4) High	=	_____	x	4	=	_____
(3) Average	=	_____	x	3	=	_____
(4) Low	=	_____	x	2	=	_____
(5) Very Low	=	_____	x	1	=	_____

TOTAL POINTS SCORED = _____

VITA

Nancy Sue Miller Marcus was born March 21, 1944, in Loudon, Tennessee. She attended Loudon County's public schools from 1950 until 1961. She was awarded an Associate Arts degree from Virginia Intermont College in 1963; the Bachelor of Science in Education degree from The University of Tennessee, Knoxville, in 1963; and the Master of Education degree from Memphis State University in 1974. Mrs. Marcus was a member of the Psi Kappa Phi Educational Honor Society at Memphis State. She entered the Graduate School of The University of Tennessee, Knoxville in January 1982, and received the Doctor of Education degree in Curriculum and Instruction in elementary education in December 1987. She was initiated into the Pi Lambda Theta National Honor and Professional Association in Education in the spring of 1986.

Mrs. Marcus has enjoyed a variety of experiences during her 18-year teaching career. She has taught biology, physical science, and math in high school; and several grade levels in elementary education. She first taught in Roane County during the school year 1965-66 and in Loudon County from 1966 until 1972. She later taught biology in Briarcrest Baptist High School in Memphis, Tennessee, during the school year 1974-75. Mrs. Marcus has been employed by Loudon County since 1975.

She is married to William Earl Marcus. They have three children and reside in Lenoir City, Tennessee.