DEFINING GIFTEDNESS: AN ETHNOGRAPHIC APPROACH

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(ABSTRACT)

Educators in local school systems who have been assigned the task of developing programs for gifted children often experience difficulty deciding what giftedness is. This difficulty stems from the fact that neither researchers nor educators agree as to which of a myriad of abilities actually constitute giftedness. Research literature on cultural differences suggests that a solution to the problem might lie in the development of a definition based on the attitudes and perceptions of the population to whom the definition is to be applied.

In light of these suggestions, this study focused on the development of a definition of giftedness based on the attitudes and perceptions of the residents of a rural county in Appalachia. The site specific definition was subsequently compared with the most widely used conventional definition, i.e., the federal definition. A second focal point of the study was the elicitation of a list of respondents' perceptions of means of identifying gifted children and a list of appropriate educational services for these children. Again, the site specific elements were compared with their conventional counterparts. The Renzulli/Hartman Scale for Rating Behavioral Characteristics of Superior Students served

as a basis of comparison for the identification criteria. The conventional approach to the provision of services was derived from a synthesis of a body of literature describing special educational services for gifted children.

The data collection centered around the determination of local attitudes and perceptions. The methodology, the Heuristic Elicitation Methodology, is one that is used by anthropologists and psycholinguists who seek to assess the knowledge, beliefs, attitudes and preferences of specific groups.

For the respondents, giftedness is a global concept comprised of 18 elements. These elements are perceived as being closely related to each other in that they share a number of common features. The analysis also resulted in 16 items that are attributes of gifted people. Finally, the analysis showed that there are 13 kinds of educational services that are appropriate for gifted children. Some of these gifts/talents, attributes, and services are similar to their conventional counterparts; others are not.

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The idols imposed by words on the understanding are of two kinds. They are either names of things which do not exist (for as there are things left unnamed through lack of observation, so likewise are there names which result from fantastic suppositions and to which nothing in reality corresponds), or they are names of things which exist, but yet confused and ill-defined, and hastily and irregularly derived from realities.

Francis Bacon

Chapter I

THE NATURE OF GIFTEDNESS

Introduction

In 1869, Sir Francis Galton published his classic treatise on the hereditary nature of genius. In this study of the lives of 400 "illustrious men of history," and in his subsequent study of English men of science (1890), Galton was the first scientist to produce a comprehensive description of genius (Whitmore, 1980). Galton's concept of genius was "great natural ability." Contemporary researchers and educators refer to the exceptional endowment of ability as giftedness, but they do not agree about which of a myriad of abilities actually constitute giftedness. There are those who believe that high intelligence is the *sine qua non* of giftedness (Gallagher, 1975; Terman, 1925), while others (e.g. Torrance, 1966, 1972) believe that creativity is equally important. Albert (1975) claims that productivity is the essential ingredient. Some, such as Witty (1958) believe that exceptional endowment in any valuable area of human endeavor can be considered giftedness.

A definition of giftedness is the foundation upon which an educational program for gifted children is built (Passow, 1981). The specific elements of a definition determine the kinds of identification criteria that are used to select children for a

program and the kinds of educational services that are provided to those children. The selection of abilities to be included in a definition is, therefore, very important to educators who must determine which children are designated as gifted and what kinds of educational services are provided to those children. For example, a definition that incorporates creativity as a category suggests that schools provide experiences aimed at developing the potential of children who have been identified as being creative; a definition that includes leadership ability suggests other types of identification criteria and educational experiences.

At present, the most common method of selecting a definition of giftedness for any given population is for educators to adopt definitions suggested by researchers or those mandated by public policy makers. There may be other ways. Research literature on gifted children suggests that definitions are culture bound (Bernal, 1974; Gallagher, 1975), i.e., they vary in substance from one culture to another, depending on the values of a given group. Research literature from the field of anthropology (cf. Clement, 1976; Harding, 1974, 1979) that the selection of a definition based on the values, attitudes, and perceptions of specific populations would enhance the degree to which programs are believed to be appropriate and worthwhile by program recipients. If educators were to develop definitions for specific populations, the question arises as to how such definitions would compare with conventional definitions. Would the different approaches yield different

definitions? Or are conventional definitions universal and therefore appropriate for all populations?

In light of these questions, this study looks at whether there are differences between conventional definitions of giftedness and site specific definitions. "Conventional" refers to definitions offered by researchers and governmental agencies, whereas "site specific" refers to a definition developed according to the perceptions of the residents of a specific locality. In this case, the locality is a rural county in Appalachia.

The study is divided into four sections. In this first chapter, a conceptual framework for the study is presented. This framework is derived from four bodies of literature: historical and contemporary definitions of giftedness, educational practices regarding the identification of gifted children, educational practices regarding the provision of services to the gifted, and cultural factors pertaining to various abilities associated with giftedness. Chapter II describes the development of a site specific definition of giftedness through the use of the Heuristic Elicitation Methodology, a methodology designed specifically for identifying attitudes and perceptions. In the third chapter the procedures used in the analysis of the site specific data are delineated along with the results of the data analysis. Finally, in Chapter IV, a site specific definition of giftedness is compared and contrasted with conventional definitions.

Definitions of Giftedness, Past and Present

When historians trace the development of the gifted child movement, they must go back to the 1859 publication of Charles Darwin's Origin of the Species , which served as the impetus for the first classic study of genius. The theory of survival of the fittest influenced Sir Francis Galton (1869) to write a paper on "the mental pecularities of different races" in which he remarked that ability seems to be hereditary. Although Galton was the first to treat genius in a statistical manner (i.e., saying that intelligence is quantifiable), he also thought of talent comprehensively. Studying the lives of 400 eminent men of history, he divided them into roughly nine categories according to their abilities: literary men, men of science, poets, musicians, painters, devines, modern scholars, oarsmen, and wrestlers.

Whereas Galton is considered the grandfather of the gifted education movement, Louis Terman is considered the father (Stanley, 1976). Terman's doctoral dissertation (1906) on "Genius and Stupidity" marks the actual beginning of the gifted child movement, but it is his classic longitudinal study of the gifted that has had the greatest impact on the education of the gifted. In 1920, Terman was awarded a $20,000 grant to gather research data on an extensive sample of gifted children. He and his staff at Stanford decided on two approaches to the study. The first was a study of historical men of genius. Catherine Cox Miles, one of Terman's doctoral students, identified 300 individuals whose eminence was

based on intellectual achievement rather than hereditary aristocracy. She studied documents which she compiled into 6000 typed pages of information. She then asked a panel consisting of Terman and two other Stanford professors who were acquainted with age norms to estimate the minimum I.Q. that would account for individuals' performances at ages 7 and 17-26. These estimated I.Q.'s ranged from 100 to 200 (Seagoe, 1975).

> Philosophers ranked highest with an average I.Q. of 170; poets, novelists, dramatists second with revolutionary statesmen at 160, followed by scientists at 155, musicians at 145, artists at 140, and military men at 125. (p. 87)

Terman's second approach was a longitudinal study of living gifted children and youth. The 1528 subjects identified for the study ranged in age from 3 to 18 years with an average I.Q. of 151 (Seagoe, 1975). The initial project was from 1921-1923, with follow-up studies in 1927-1928, 1939-1940, 1950, 1951, 1960, and 1977. It was during the initial phase that Terman started using the term "gifted" instead of "genius." He felt that genius sets individuals apart from the rest of mankind, while gifted is an extreme on a continuum of intellectual ability (Terman, 1925).

For 50 years, Terman and his successors have collected data in a wide range of areas, including personality traits, school achievement, career success, intellectual status, and psychological adjustment. Many of the personality traits and behavioral characterisitcs derived from these data have been incorporated in rating scales which currently serve as some of the most frequently used instruments for identifying gifted and talented children (cf.

Renzulli & Hartman, 1971). More fundamental, however, is the influence of the Terman studies on the way in which giftedness has been defined. "By defining exceptional ability solely in terms of high intellectual capacity, he [Terman] set the stage for measuring giftedness by means of tests of intelligence" (Jenkins-Friedman, 1982, p.24). This use of intelligence tests as the single metric of giftedness has been greatly criticized in recent years. Many researchers and educators, including Terman himself (1954), have come to believe that giftedness is more than high intellectual ability.

Dissatisfaction with a limited perspective has led researchers and educators to develop "broadened" definitions (Reis & Renzulli, 1982). One of the first educators to write about such an expansion was Leta Hollingsworth, a contemporary of Terman. Although her research focused on children with I.Q.'s above 170, Hollingsworth believed that children can have other types of gifts, such as mechanical aptitude or artistic ability (Pritchard, 1951).

During the 1940's the conception of giftedness was expanded further when the federal government began to take an interest in the education of gifted and talented children. This federal interest was sparked during and after World War II when policy makers perceived a need for technological advancement in order to maintain the nation's military and political superiority. By 1950, Congress had passed the National Science Foundation Act which marked the first time the federal government provided funds

specifically for the gifted and talented (Zettel, 1982). By providing funds for encouraging students to develop their abilities in mathematics and the physical sciences, the Act led, in essence, to the designation of specific academic aptitude as a type of giftedness.

Another significant development in the expansion of the definition of giftedness was the publication of J.P. Guilford's (1959) factor analytic studies of the structure of the intellect. As early as 1950, Guilford had been urging psychologists to explore the area of creativity, or "divergent thinking," but it was his structural model of the 120 theoretical components of intelligence that "provided a major impetus for the development of assessment techniques aimed at measuring abilities other than those appraised by conventional tests of intelligence" (Passow, 1977, p. 360). The development of creativity tests such as the Torrance Test of Creative Thinking (Torrance, 1966), and the results of a raft of studies of the relationship between intelligence and creativity (cf. Getzels & Jackson, 1962), have led many researchers to include creativity in their definitions. Renzulli (1978), for example, considers giftedness to be a combination of above average ability, creativity, and task commitment.

In 1969, Congress mandated a study by the U.S. Commissioner of Education to determine the extent to which the needs of gifted and talented children were being met (Sisk, 1980). The ensuing document, known as the Marland Report (1972), contains a definition

of giftedness that has been and continues to be the one most widely adopted or adapted. The Report states:

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities, are capable of high performance. These are children who require differential educational programs and/or services beyond those provided by the regular school program in order to realize their contribution to self and to society.
>
> 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
> 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. (p.10).

Although this definition has been criticized as being limiting (Reis & Renzulli, 1982) and of promoting elitism (Feldman, 1979), more than 80 percent of the 204 experts polled for their reactions to the Marland definition agreed with the selection of the categories of high intellectual ability, creative or productive thinking, specific academic aptitude, and ability in visual or performing arts. Approximately half of the experts agreed that social adeptness and psychomotor ability should be included (Martinson, 1975). Nevertheless, the sixth category, psychomotor ability, was deleted from the 1978 version of the federal definition (P.L. 95-561, 1978) because educators and policy makers realized that funds earmarked for this area were being spent on

athletic programs (Sato, 1980).

Because the Marland Report definition was adopted by the federal government, and because it serves as the basis for the distribution of federal funds to states, this definition is at the core of most state definitions (Jenkins-Friedman, 1982). Twenty-two states incorporate all of the six categories listed in the Marland Report. Thirty-eight states designate general intellectual abilitiy, thirty-four combine intelligence and specific academic aptitude, while thirty-two include creativity. Twenty-eight states list ability in the visual or performing arts as part of their definitions, twenty-six use leadership ability, and twenty-three include psychomotor ability (Zettel, 1979). In states where funding for local gifted programs is linked to mandated definitions, localities have little choice but to adopt the state definition.

Definitions: Means to an End

Definitions offered by researchers and those mandated or suggested by governmental agencies serve the same ultimate function. They form a basis for local policy decisions regarding the nature and scope of gifted programs. As there are many and varying abilities that may be included in a local definition, the selection of abilities has certain implications for programmatic decisions. Of primary concern to local program planners are the criteria for determining the types of students who are identified as being gifted and the kinds of experiences that are appropriate

for these children (Kaplan, Madsen, Gould, Platow, & Renzulli, 1980). If, for example, local officials were to single out high intellectual ability as their definition, the criteria for identifying students and the concomitant provision of services might be very different than if ability in the visual or performing arts were included. High intellectual ability suggests the use of measures of intelligence for identifying students, whereas ability in the visual or performing arts suggests judgment of artistic products or performances. Similarly, high intellectual ability suggests a curriculum aimed at developing critical thinking, problem solving skills, or research skills; ability in the arts suggests a curriculum aimed at developing an understanding of and means of producing works of art. Ideally, then, decisions about identification and services should be based on the types of abilities incorporated in a definition.

Identification. During the first half of the twentieth century, the identification of gifted children centered around the assessment of intellectual ability, primarily through the use of intelligence tests. The dominating role of I.Q. tests stems from the "Terman myth" (Whitmore, 1980), i.e., that the term gifted applies only to those who score high on tests of achievement and intelligence. As the definition of giftedness has expanded to include areas other than intellectual ability, educators have adopted multiple means of identifying gifted children.

In general, the most common bases for the selection of

students for participation in gifted programs is the assessment of students' abilities, achievement, behavioral characteristics, and specific educational needs (Whitmore, 1980). To make this assessment, educators employ a variety of measures: intelligence tests, achievement tests, creativity tests, teacher nominations, parent information, evaluation of pupil products, and teacher or parent notations on traits and behavior (Martinson, 1975). Of these measures, scores on intelligence tests are still the most commonly used, followed in frequency by nominations and achievement tests (Alvino, McDonnel, & Richert, 1981). The fact that these measures are employed frequently does not necessarily mean that they are used appropiately. Indeed, tests and instruments are being used for "purposes completely antithetical to those for which they are intended" (Alvino et al., 1981, p.128). Measures of intelligence and academic aptitude are being used interchangeably. Achievement tests are being used to identify intellectual ability three times as often as they are used to identify specific academic aptitude. Intelligence tests are used to identify specific academic aptitude twice as often as they are used to identify intellectual ability. Intelligence tests are also being used to measure creative talent, talent in the arts, and leadership ability (Alvino et al., 1981).

One of the most common practices in the identification of gifted children is the establishment of minimum scores on certain measures, especially intelligence tests, as a criterion for placing

students in programs. Quite often the cut-off score on I.Q. tests is 130; this means that a student with an I.Q. of 130 or higher could be placed in a program, while a student with an I.Q. of 129 or lower could not. Many states, such as California, Pennsylvania, and West Virginia have such requirements, despite a wide body of literature showing that intellectual achievement is not necessarily a function of intelligence alone (cf. Gallagher, 1975; Getzels & Jackson, 1962; Terman, 1954). As a demonstration of the inappropriateness of cut-off scores, Renzulli (1982) cited Cox's (1926) study of notable intellectuals throughout history who had estimated I.Q.'s below 130: Cervantes, Copernicus, Raphael, Lavoisier, Jenner, Fielding, Harvey, Locke, Rembrandt, Swift, Luther, Haydn, Madison, Goldsmith, Bach, and La Fontaine.

Over the past 20 years, researchers and educators have begun to examine the effects of inflexible identification criteria, particularly in relation to the application of such criteria to the culturally different. As Harding (1972) states:

> To date, all methods of assessing the quality of an individual's mental functioning use some sample of the person's behavior. Since behavior is always reflective of the individual's cultural background, assessment which ignores the person's background and/or perceptions of the testing context will be extremely limited in both reliability and validity. (p.1)

Intelligence tests are accused of being designed for the white middle class (Bruch, 1975) and of penalizing children with differing linguistic styles (Bailey & Harbin, 1980). Measures that rely heavily on verbal ability, such as the Lorge Thorndike, the

Slosson, and the Wechsler Intelligence Scale for Children are often used with limited English speaking, disadvantaged, or ethnic minority populations (Alvino et al., 1981).

To overcome these difficulties, researchers have suggested that the culturally different may be more likely to meet identification criteria if series of tests or matrices are used instead of single indices (Chambers & Barron, 1978; Gallagher, 1975; Sisk, 1980; Torrance, 1972). Included in these matrices are behavior rating scales (Chambers, Barron, & Sprecher, 1980; Renzulli & Hartman, 1971)), criterion referenced measures (Bailey & Harbin, 1980), local or special group norms on standardized tests (Bailey & Harbin, 1980), and creativity tests (Torrance, 1966). Another suggestion is that measurement efforts be relevant to specific populations, such as Chamber, Barron, and Sprecher's (1980) characteristics of gifted Mexican American children or Gay's (1978) characteristics of gifted Black children. This study is a follow-up of these suggestions in that it begins with the premise that specific groups do score differently on standardized tests; the study goes beyond that premise to examine the attitudes and beliefs of specific populations towards means of identifying gifted children.

As social scientists have begun to examine current practices of identifying gifted and talented students, they have started to recognize some of the problems associated with the provision of services, particularly to culturally different students and/or

students from lower socioeconomic levels. Special programs for the gifted are likely to be designed for white middle class children (Bailey & Harbin, 1980; Ogletree & Ujlaki, 1978), and may not be appropriate for the culturally different or the economically disadvantaged.

Educational Services. The most commonly accepted rationale for the provision of educational services to the gifted and talented is that gifted students have needs that are not ordinarily met in the regular classroom; they require, therefore, a wide variety of educational opportunities that are designed to meet their special needs (Whitmore, 1980). The types of services are so various as to be difficult to categorize, but, in general, they fit within the framework of four types of program components: enrichment, acceleration, grouping, and guidance (Clendening, 1980; Rice, 1980; Sanders, 1961; Virginia Plan for Gifted and Talented, 1980).

Enrichment is a term that is applied to experiences that replace, supplement, or extend the learning experiences provided in the regular curriculum. Enrichment experiences are of two types, those that contribute to students' depth of understanding and those that contribute to students' breadth of understanding (Sanders, 1961). With the first type of enrichment, students are encouraged to explore subjects to a degree that is atypical for their grade level. In most gifted programs, this exploration is based on students' interests. Independent study is an example of enrichment

for depth of understanding. With the second type of enrichment, students participate in activities that are aimed at widening their horizons. Examples of such activities include instruction in foreign languages or photography for elementary students. Renzulli (1977) has incorporated both types of enrichment in his Enrichment Triad Model. According to this model, students participate in three kinds of activities. The first two are referred to as general exploratory activities and group training; these activities are aimed at enhancing students' breadth of understanding. The third, and most important kind of activities, are individual and small group investigation of real problems; these activities are aimed at enhancing depth of understanding.

Acceleration can take two forms, acceleration of students and acceleration of content. Acceleration of students might mean that precocious young children be allowed to enter school early, or that school age children be permitted to skip a grade, or that high school students be allowed to take college courses. Acceleration of content suggests that gifted students cover the regular curriculum in a shorter period of time than do other students. The Study of Mathematically Precocious Youth at Johns Hopkins University is an example of a program that employs both of these strategies. In this program, junior high school age students are presented with a body of content that has been "compacted," thus enabling them to learn Algebra I or II in a few weeks. Upon completion of such a course, students may then progress to the next

course, so that by the time they finish high school they might have learned as much about mathematics as college students (Stanley, 1976).

Grouping can be either partial or full time. With partial grouping, students spend part of their day in activities or classes designed for gifted students and part of their time in regular classes. Advanced placement is a type of partial grouping. With full time grouping, students are homogeneously grouped for most of the school day. Magnet schools and special centers, such as the North Carolina School of the Arts, are examples of full time grouping.

The inclusion of guidance as one of the basic components of gifted programs is predicated on the belief that gifted children might have difficulty coping with their exceptional ability. For that reason, gifted programs often include experiences that promote understanding of self and of others, such as group or peer counseling, student/parent conferences, or individual conferences. Guidance activities are also designed to help students explore opportunities for careers; these activities include scholarship societies, internships with professionals, and career and vocational counseling (The Virginia Plan for Gifted and Talented, 1980).

Cultural Differences and Definitions of Giftedness

Decisions as to which types of definitions are to be used, which types of identification procedures are to be employed, or

what kinds of services are to be provided by a given school district have traditionally been based on research literature and on federal and state policy. In the past 15 years, however, social scientists have begun to recognize the desirability of examining the values and needs of local constituencies before making programmatic decisions (cf. Kaplan, 1975; The Virginia Plan for Gifted and Talented, 1980). The importance of assessing values stems from a belief that values determine the kinds of gifted behaviors that are acceptable to given cultures or subcultures (Renz & Christoplos, 1968). If, for example, a cultural group values analytical ability, then the members of that culture will be likely to encourage students to think analytically. If, on the other hand, a cultural group does not value an ability, such as leadership ability, then they will not be likely to encourage students to take traditional leadership roles.

Many cross cultural studies look at particular groups in terms of whether they "have," "have more," or "have less" of some cognitive capacity. Cole and Scribner (1974) suggest, however, that the central point to cross cultural research is that social scientists should study operations rather than entities because these entities are "shifty" and may work differently in different circumstances. Studies on intelligence, creativity, and psychological ability, in particular, suggest that these constructs are defined differently in different contexts. Gladwin (1970), for example, studied the ways in which non Western societies perceive

the constructs measured by Western intelligence tests and concluded that his subjects not only perform differently on the tests than do Westerners, but they also perceive the constructs differently. Gladwin's subjects were the navigators on the Puluwat Atoll. In Western societies the ability to be a good navigator subsumes a certain amount of abstract reasoning and problem solving. Although it is a custom of American psychologists to relate abstract thinking and problem solving to intelligence, the navigators on Puluwat do not make the same connection. Because the navigator deals only in old problems to which there are concrete solutions, he does not need problem solving devices, and he has little experience or skill in employing them. On Puluwat, a "wise man" is one who has a good memory.

Another difference between Eastern and Western cultures is the relative importance placed upon intuitive or creative thinking, as opposed to rational, logical thinking. For Western cultures, rational processes are the essence of intelligence. Easterners place intuitive thinking above logical thinking (Torrance, 1980). Creativity is not only valued differently in Japan, it is also perceived somewhat differently. For the Japanese, creative production is a function of a group rather than an individual effort, since group cooperation is valued more highly than individual effort. This group-oriented behavior has been a major factor in Japan's success as a modern industrial power (Vogel, 1979).

Various groups of Native Americans also prefer group cooperation over individual competition. The Hopi, for example, train their children for interdependence rather than indepencence (Eggan, 1963). The Oglala despise competition. For them, "cheating," or the sharing of knowledge of classmates, is a valued proficiency (Erikson, 1963). For the Menomini, there is virtually no leadership in the traditional sense of the word (Spindler, 1963).

The performance of various cultural groups on measures of ability, as well as their perceptions of the abilities, lend credence to the notion that definitions of giftedness are culture bound (Gallagher, 1975; Renz & Christoplos, 1968). In that vein, a few researchers have attempted to develop culturally specific definitions, the most notable being Bernal's (1974) definition of giftedness for Mexican Americans. The intent of Bernal's study was to develop a definition based on the perceptions of Mexican Americans. To do this, he first identified a group of students with high scores on intelligence and creativity tests. He then asked respondents to describe the personal traits, linguistic background, and behavioral characteristics of these students. The problem with this approach is that it is based on the assumption that intelligence and creativity are the essence of giftedness. In reality, Bernal's study is the development of a list of personological factors rather than one of the development of a definition. However, this problem should not overshadow the intent

of the study. Passow (1972) claims that "those abilities that are valued in various subcultures are the basis of giftedness in that subculture" (p.24). Gallagher (1975) and others state that definitions are culture bound. Research findings from applied anthropology suggest that the assessment of values and attitudes of a target group regarding abilities, and the development of a definition of giftedness based on those values, would enhance the degree to which a local program for gifted children would be accepted by the population. If these claims are true, then it would be to educators' advantage to determine the attitudes and perceptions of the locality and to develop a site specific definition for that group. Once such a definition is developed, however, the question arises as to how the definition would interface with conventional definitions. If intellecutal ability and academic aptitude are the most common elements of conventional conceptions (Zettel, 1979; Alvino et al., 1981), is it reasonable to expect that a specific cultural group would value these abilities to the extent to which they would include them in a definition of giftedness that would be applied to the children of that group? How would the members of a specific group identify people who have these abilities? What kinds of services should schools provide to children who have these abilities?

This study seeks to answer these questions by developing a definition of giftedness based on the attitudes and perceptions of the residents of a specific locality in Appalachia and by comparing

that definition with conventional conceptions. As the primary function of a definition is to serve as a basis for programmatic decisions regarding the selection of identification criteria and the provision of appropriate educational services (Passow, 1981), this study also examines local attitudes and perceptions regarding identification and services; again, site specific perceptions are compared with conventional approaches.

The site for the study is Wise County, Virginia, which is situated in the heart of Appalachia. Appalachia has been an area of interest to social scientists since the 1960's when President Lyndon Johnson stood on the front porch of a house in Martin County, Kentucky and declared the War on Poverty. Educators in particular have been interested in the relationship between the poverty that pervades the area and the success of school children. Appalachia has one of the highest dropout rates in the nation (Carlton, 1977). This high rate has traditionally been attributed to the practice of teenagers leaving school in order to take jobs in coal mining, the chief industry of the area (Coles, 1971a, 1971b). Educators have also been interested in the performance of Appalachian children on tests of intelligence and academic achievement. Hooper (1969) has shown that these children tend to score below national norms on standardized tests of verbal ability and achievement, but that they score as high as the national norms on culture free intelligence tests. At present, educators are involved in the process of providing programs for the

gifted children of the area. Although there have been a few studies of the performance of Appalachian children on standardized tests, there is a paucity of studies regarding gifted Appalachian children. Literature on Appalachia, particularly the work of Coles (1966, 1967, 1968, 1971a, 1971b) provides sufficient evidence that the values and attitudes of the population are distant enough from the mainstream to justify the selection of Appalachian people as subjects for this study.

The Problem

Educators in local school systems who have been assigned the task of developing programs for the gifted often experience difficulty deciding what giftedness is. This difficulty stems from the fact that there are many conceptions of giftedness, and there is at present no systematic means of selecting the most appropriate definition for a given population, if indeed a definition should be specific to a given population. Research literature on cultural differences suggests that a resolution to this difficulty might lie in the assessment of the values and attitudes of the population to whom the definition is to be applied and in the development of a defintion based on those perceptions. This approach is based on the possibility that a site specific definition might be somewhat different from a conventional definition.

The primary focus of the study is the relationship between standard definitions of giftedness and site specific definitions. The local definition is based on the constituency's attitudes and

perceptions; standard definitions are exemplified by the federal definition. Since the main function of a definition is to serve as a basis for programmatic decisions, particularly those regarding identification and the provision of services, a second focus of this study is the relationship among definitions, identification criteria, and services. In that vein, this study examines local attitudes and perceptions regarding definitions, identification, and services. The conventional approaches to identification are those described by Alvino et al. (1981) in a survey of the most common practices of identifying gifted children. Conventional approaches to the provision of services are described by Sanders (1961) and Rice (1980), who present overviews of traditional educational services for gifted children.

In light of the problem, and of the foci of the study, the following questions were asked:

1. Are there differences between local perceptions of giftedness and definitions proffered by researchers and policy makers? If so, what is the nature of these differences?

2. If there are differences, what are the concomitant implications for the development or selection of identification criteria and the provision of educational services?

In order to answer the research questions, it was necessary to ask a series of additional questions.

1. What is giftedness, as defined by the residents of Appalachia?

2. What is giftedness, as defined by researchers and policy makers?

3. What are the similarities and differences between the site

specific definition and conventional definitions?

4. According to the residents of Appalachia, how can gifted people be identified?

5. What are conventional approaches to identifying gifted children?

6. How do site specific perceptions regarding identification compare with conventional approaches?

7. What kinds of educational experiences do the residents of Appalachia deem most appropriate for gifted children?

8. What are conventional approaches to providing educational services to gifted children?

9. How do site specific perceptions regarding the provision of educational services compare with conventional approaches?

Design

Answers to the research questions were derived from two sources. Questions pertaining to Appalachian perceptions of giftedness, identification, and educational services were answered by asking residents of Wise County, Virginia their attitudes towards and perceptions of these elements. Conventional definitions, identification procedures and educational services were extrapolated from a large body of literature dealing with the education of the gifted. For purposes of comparison, these conventional approaches were to be represented by the federsl definition (P.L. 95-561, 1978), the results of a national survey of identification procedures (Alvino et al., 1981), and a synthesis of descriptions of special educational services (Rice, 1980; Sanders, 1961; Virginia Plan for Gifted and Talented, 1980).

Since the focus of the study is the notion of site specific

definitions, and since the conventional notions were derived from the literature, the actual data collection centered around the determination of local attitudes and perceptions. The methodology employed in this study is particularly appropriate in that it is specifically designed to "assess the knowledge, beliefs, attitudes, and preferences of a group of people" (Nardi & Harding, 1978, p. 39). Chapter two outlines this methodology.

Chapter II

METHODOLOGY

Introduction

One purpose of this study is to determine a definition of giftedness based on the attitudes and perceptions of the residents of a specific locale so that the definition could be compared conventional definitions. In addition to determining a site specific definition, the study examined local beliefs regarding means of identifying gifted people as well as perceptions regarding educational services that may enhance the development of gifts and talents. These beliefs and perceptions were then compared with conventional notions regarding the identification of and provision of services to gifted children. In order to identify local beliefs and perceptions, the study employed the Heuristic Elicitation Methodology (H.E.M.). This methodology was particularly appropriate for this study in that it was designed to provide a "systematic means for ascertaining attitudes toward and perceptions of particular programs and services" (Harding & Clement, 1973, p. 42).

Participants

The site specific definition of giftedness as well as local attitudes and beliefs about identification criteria and services were based on information provided by the residents of Wise County, Virginia. Wise County is considered to be in the heart of

Appalachia. Literature describing Appalachians (cf., Coles, 1966, 1967, 1968, 1971) and information obtained from local informants suggest that three features of this population distinguish it from certain national norms; residents of Appalachia tend to have low levels of education, occupational status, and income. Census data substantiate these suggestions. At the time the data for the study were collected, final 1980 census data were not available for these three features. Preliminary reports of the 1980 census revealed that 40.8 percent of the residents of Wise County over 25 years of age are high school graduates. For the Commonwealth of Virginia, the comparable figure is 62.4 percent. Data for 1970 show that the median years of school completed for males 25 years and over was 7.9; for females of the same age group the median was 8.3. These figures are significantly lower than the national figure of 12.2 median years of school completed for both males and females.

The main industry of the region is coal mining. According to the census data, the mining industry employs approximately 25 percent of the male working population. Census data do not reveal a figure for the percentage of the population working in coal related industries such as mining equipment manufacturing and mining construction. If these figures were available, they would undoubtedly show that in Wise County coal is indeed king. During periods of economic recession when there is a diminished demand for coal, the entire area feels the effects of high unemployment. At the time the data for this study were collected, the unemployment

rate in Wise County was over 15 percent of the working population; the figure subsequently rose to 30 percent.

Census data for 1970 show that 33 percent of the households in Wise County reported incomes below the poverty level, as compared with 10.7 percent of the population for the entire nation. However, 63.5 percent of the males age 16 and over were in the working force; the comparable figure for the nation was 51.2. percent. In 1979, the per capita income for the residents of Wise County was $5725 per annum; the per capita income for Virginia was $7563. At that time, the poverty level was $7412 for a family of four.

Heuristic Elicitation Methodology: An Overview

Heuristic elicitation is a methodology developed within the fields of psychology, anthropology, and linguistics. It is often used to systematically determine local beliefs, attitudes, and perceptions towards an "introduced element" so that the local beliefs may be taken into account when planners design programs or services. The underlying assumption of the methodology is that the provision of a program that is compatible with local attitudes enhances the likelihood that the program will be believed to be appropriate and worthwhile by program recipients.

The Heuristic Elicitation Methodology is a three stage process consisting of a domain definition, a beliefs elicitation, and a rank ordering. As the term heuristic implies, the information obtained and analyzed in one stage is used as a basis for the

development of the instruments for succeeding stages. Each of the three stages requires various types of instruments, data, samples, and data analysis (See Figure 1.) These various components range in nature from the open-ended, qualitative strategies of the domain definition to the structured, quantitative procedures of the rank ordering.

	Stage 1	Stage 2	Stage 3
	Domain Definition	Beliefs Elicitation	Rank Ordering
Type of Data	Qualitative	Quantitative	Quantitative
Instrument	Open-ended Interview	Structured Interview	Questionnaire
Sample	Select	Select	Modified Random
Data Analysis	Content Analysis	Frequencies Hierarchical Clustering	Means Tests of Significance

Figure 1. Stages of the Heuristic Elicitation Methodology (adapted from Nardi & Harding, 1978).

One of the key features of this methodology is that the instruments are respondent-centered rather than researcher-generated. This means that questions are asked in ways that allow the respondents to determine the number and nature of responses. In the domain definition, for example, respondents answer a series of open-ended questions aimed at eliciting a wide range of beliefs about gifts and talents, means of identifying the gifted, and appropriate educational services for the gifted. These responses are recorded verbatim. The questions are designed so that the responses are analyzed and categorized according to the nature of the responses themselves rather than by some pre-determined set of categories. The domain definition generates a large body of responses; subsequent stages systematically sort and combine these responses in terms of relationships or dimensions of interest. Another important feature of the H.E.M. is that the data reduction preserves respondents' terminology and their categories of responses.

The H.E.M. has proved useful in a variety of educational settings. In one situation, anthropologists were commissioned by the directors of a chain of preschools who wanted to know why their programs were being subscribed to at a rate that fell below their expectations. The investigators found a large discrepancy between the types of programs that were advertised and the types of services that were being provided. The advertisements portrayed the schools as being a type of "Mom and Pop" day care center, while

parents with children enrolled in the schools perceived the programs as being closer to the Montessori model of preschools. When prospective subscribers visited the schools, they were often not interested in the types of programs the schools offered and were therefore not inclined to enroll their children (Clement, 1976).

In Ramah, New Mexico, architects sought to design a culturally appropriate school/community center by first determining the Navajos' perceptions of possible uses of the structure and also their design preferences. The resultant design, for example, accommodated the constituency's desire to be able to see out to enjoy the view but to remain unseen from the outside; the design also took into account the respondents' sense that multi-story buildings are dangerous (Harding, 1979). In these studies, as well as others by Christen (1973), Clement, Lammers, Rouse, and Harding (1974), Harding (1972), and Harding and Clement (1973), heuristic elicitation has aided program planners by systematically determining perceptions and attitudes of the constituency so that these may be taken into account when designing local services.

Domain Definition

The primary function of the domain definition is to identify as many items in the domain of interest as possible. The techniques used in this phase were aimed at determining respondents' perceptions of 1) gifts and talents, 2) means of identifying gifted people, and 3) appropriate educational

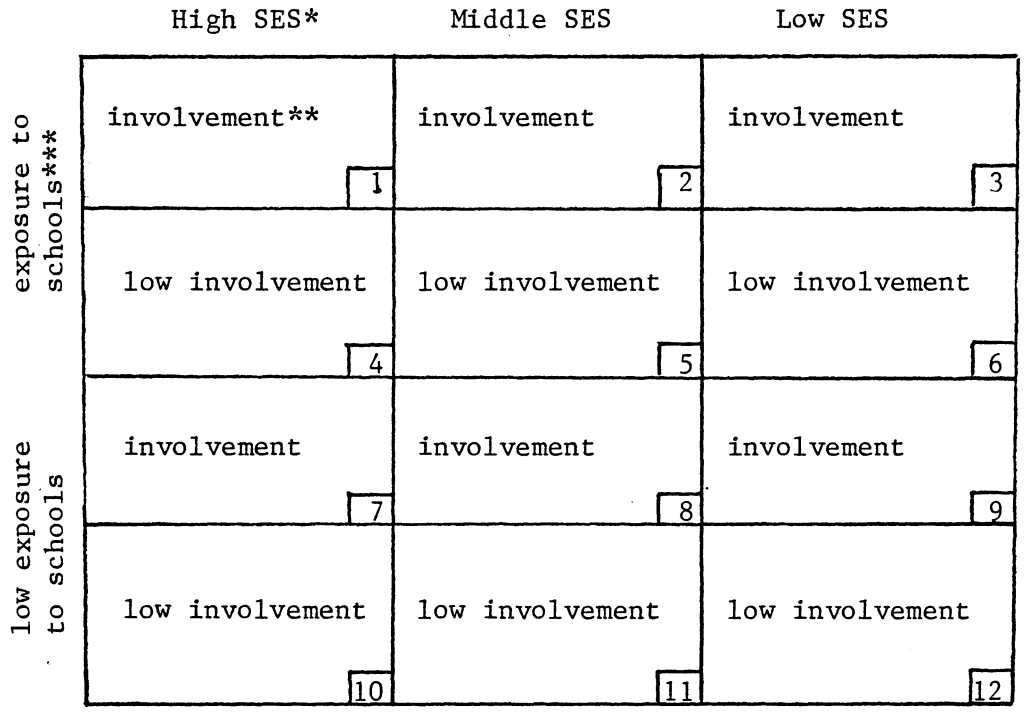
experiences for gifted children. In order to obtain a wide range of responses, information was collected from a sample that was selected to represent a wide range of the population in terms of certain salient features of the general population of the area; the instrument used was also designed to maximize the potential for a great variety of responses.

Sampling Plan. If the primary function of the domain definition is to provide a wide range of responses regarding residents' perceptions of giftedness, the primary function of the sampling plan is to designate the types of residents who are likely to have varying beliefs about giftedness. The assumption is that people who have certain characteristics are likely to have different beliefs from people who have other characteristics. For this study, subjects were selected according to their characteristics along three dimensions: socioeconomic status, exposure to schools, and involvement in schools. The dimensions were selected because they are germane to the population of Wise County, and because they are germane to the study of gifted school children.

The first dimension was socioeconomic status. As previously mentioned, census data suggested that there are three features of the population of Wise County that are in variance with national norms; residents of Wise County tend to have low occupational status, low levels of income, and low levels of education. Since the three variables are indications of socioeconomic status, and since a

range of subjects was desirable, one means of selecting respondents was by identifying subjects who represented various positions on the Hauser and Featherman (1977) revision of the Duncan Socioeconomic Index (1961). The index was divided into thirds, with groups of occupations being categorized as high, middle, and low SES. (See Appendix A for a list of examples of occupations falling into each of the three categories).

The second dimension of the sampling plan was exposure to schools and was defined by whether or not interviewees have children currently enrolled in the Wise County schools. The basic premise for the selection of this dimension was that people with children in school are more likely to know about current trends in gifted education than those who do not have children in school. Again, since a variety of responses was crucial, both "exposure" (children in school) and "low exposure" (no children in school) subjects were selected. Figure 2 shows a grid consisting of high, middle, and low SES by exposure and low exposure to schools.



* Socioeconomic Status as determined by the Hauser and Featherman (1977) revision of the Duncan Socioeconomic Index (1961)

** Involvement as defined by whether or not respondents are involved in school related groups or activities

*** Exposure as defined by whether or not respondents have children currently enrolled in the Wise County Schools

Figure 2. Sampling plan for the domain definition.

In addition to socioeconomic status and exposure to schools, a third factor appeared to be relevant to the selection of interviewees - whether or not they are involved in school related groups or activities. People who are involved in school organizations such as P.T.A., athletic or band boosters, or the school board are likely to have perceptions of gifted education differing from individuals who are not similarly involved. In order to capitalize on these varying perceptions, subjects were selected on the basis of their "involvement" or "low involvement" in school related activities.

As can be seen in Figure 2, there are 12 cells in the grid for the sampling plan; there is one subject per cell. Because the subjects were selected to represent a wide range of the population, and because each subject was interviewed at great length, a sample size of 12 proved to be quite adequate for providing the desired number of varying responses.

As an example of the types of subjects interviewed, the top left-hand cell, cell number one, describes an interviewee who is in the high SES group, has children in school, and is involved in school related groups or activities. Similarly, the bottom right-hand cell, cell number 12, describes a subject who is in the low SES group, has no children in school, and is not involved in school related groups or activities. Appendix B shows the grid with descriptions of the actual interviewees.

Local informants were most helpful in identifying prospective interviewees. Among these informants were school administrators, teachers, secretaries, social workers, mail carriers, and coal miners.

Instrument. The interview schedule for the domain definition consisted of five open-ended questions. (See Appendix C). The questions were selected based on several assumptions. The first assumption was that a definition of giftedness can be developed by eliciting from respondents their perceptions about what it is that makes people gifted or talented. For the purpose of developing the interview questions and of coding the responses, these perceptions were referred to as "abilities." A second assumption was that the interviewees could identify certain characteristics or behaviors that gifted or talented people demonstrate and that the items elicited could eventually be used by educators for identifying gifted children. Perceptions about these factors were referred to as "identifiers." A final assumption was that the subjects would have useful ideas about the kinds of services schools should provide to gifted children. Perceptions about these elements were referred to as "services."

Just as the various stages of the methodology evolve in a heuristic manner, so also do the questions on the interview schedule of the domain definition. Figure 3 shows an example of this evolution.

1.	2.	3_1.	3_2.	4.
(X)	(Y)			
		a.	a.	a.
		a.	a.	a.
		b.	b.	b.
		b.	b.	b.
	a.	c.	c.	c.
	b.	c.	c.	c.
	c.	d.	d.	d.
	d.	d.	d.	d.
	e.	e.	e.	e.
	f.	e.	e.	e.
		f.	f.	f.
		f.	f.	f.

1. Think of some people in this area who you think are gifted or talented. What are the first names of these people? (X)
2. What particular things about (X) make you think he/she is gifted or talented? (Y)
3_1. What particular things does (X) do to make you think he/she is (Y)? Alternate: How can you tell (X) is (Y)?
3_2. What makes it possible to (Y)?
4. What can schools do for students who are/have (Y)?

Figure 3. Example of the heuristic nature of questioning for the domain definition interview schedule.

The first question asked respondents to think of people whom they consider to be gifted or talented and to provide some means (a first name, a number, etc.) of referring to the people mentioned. Responses to the first question were coded as (X). The second question, which was aimed at eliciting the abilities associated with giftedness or talent, asked the respondents what particular things about (X) made the respondent think that (X) is gifted or talented. Responses to question 2 were coded as (Y). Since the respondents were not necessarily familiar with educational terminology, expressions such as "abilities" and "identifiers" were avoided in the questions themselves. Field tests of the interview schedule revealed that people who are unfamiliar with such categorizations do not make semantic differentiation between the two concepts. The lack of differentiation of these terms meant that the respondents might answer question 2 with either abilities or identifiers. For example, (X) might be described as a) making good grades, b) working hard, and c) being intelligent. Questions 3_1 and 3_2 were developed to account for (Y) being either an ability or an identifier and to ascertain an appropriate categorization for each response.

Question 3_1, which was to indicate identifiers, i.e., personality traits or behavioral characteristics, asked "What particular things does (X) do to make you think he/she is (Y)?" Question 3_2 was created to elicit the underlying ability behind (Y). It asked, "What makes it possible to (Y)?" At first glance,

it seems obvious that if both 3_1 and 3_2 were applied to each (Y), one of the questions would not make sense, and thus its categorization as an ability or an identifier would be clear. If, for example, a subject responded to question 2 by saying that (X) makes good grades, asking 3_1 "What particular things does (X) do to make you think he makes good grades" seems superfluous. But asking 3_2, "What makes it possible to make good grades," might elicit a valid response such as "being smart." In theory, a response to one question should have precluded a response to the other. In practice, however, respondents did not make this differentiation. When a question did not make sense, respondents tended to treat the question as an extension of a question that did make sense. Although this test to discriminate abilities from identifiers did not always work, the test did prove to be an effective strategy for determining whether an item could be coded as an ability. For example, if a subject had said that (X) was intelligent, asking "What makes it possible to be intelligent" elicited responses such as "it's a gift" or "it's a God-given talent." Such designations were crucial in analyzing the data in a manner where the coding was based on the respondents' perceptions rather than those of the researcher.

The fifth question was much less complex. It asked, "What can schools do for students who are/have (Y)? This question was applied to each response to question 2 and to any new abilities that appeared in questions 3_1 and 3_2.

Data Collection. The data were collected during a three week period in the fall of 1982. Prospective interviewees were initially contacted by local informants who briefly described the study and obtained the subjects' permission to be interviewed. The turn down rate was zero, i.e., all of the residents who were asked for interviews complied. Those interviewees were then contacted by the researcher so that arrangements for the time and place of the interviews could be made. The interviews were held in locations chosen by the respondents. Approximately half of the interviews took place in the subjects' homes; the other half were held in either places of employment, schools, or restaurants. The average length of the sessions was two hours. With the exception of one subject, all of the interviewees were extremely gracious.

In addition to answering the interview questions, each subject was asked to read and sign a statement of informed consent. (See Appendix D). Demographic data were also obtained in order to ascertain whether the sample did, indeed, represent a wide range of the population. A copy of the demographic data form is in Appendix E.

Data Analysis. The data from the domain definition interviews were analyzed by a method called content analysis. In essence, content analysis is "a method of studying and analyzing communications in a systematic, objective, and quantitative manner . . ." (Kerlinger, 1973, p. 525). Traditionally, this method has

been used to determine the relative frequency of various communication phenomena such as propaganda, trends, or bias. In the domain definition, content analysis was used to determine categories of items within each of the three domains and to ascertain the frequency of the subjects' descriptions of each category. The exact procedures followed in analyzing the data for this study are explained in more detail in the next chapter. (See Appendix F for the results of the content analysis.)

Once the data were analyzed, it became apparent that the terms "abilities" and "identifiers" were not the most precise labels for the categories of items. Some of the items on the abilities list, such as "makes it on their own" or "gets and keeps a good job" are not abilities in the traditional sense of the term. Were it not for the fact that at least one of the interviewees had labeled an item as a gift or talent, they would have been categorized as identifiers, i.e., the kinds of things that gifted or talented people can do. Such a labeling could be an indication that perceptions of gifts and talents are not limited to abilities. In light of that possibility, the label "abilities" was changed to "gifts and talents." Similarly, on the list of items that were meant to be means of identifying gifted people, there were none of the traditional indicators, such as scores on tests. All of the items are attributes of gifted people. For that reason, the label "identifiers" was changed to "attributes."

Beliefs Elicitation

Whereas the domain definition explores the range of knowledge and attitudes towards a particular domain, the beliefs elicitation reveals which items in each domain are associated with items in the other domains, i.e., which gifts and talents are associated with which attributes and services. Beliefs elicitation also shows which items within a domain are similar to other items in the same domain, i.e., which gifts/talents are similar to other gifts/talents, etc.

For this second phase of the heuristic elicitation methodology, the instruments were two matrices of responses to the domain definition questions. The first matrix was composed of gifts and talents on the X axis and attributes on the Y axis (Appendix G). The second matrix was composed of gifts and talents on the X axis and services on the YY axis (Appendix H). Interviewees were asked to determine which items on one axis were perceived as being related to items on the other axis; thus a matrix comprised of 21 items by 25 items elicited 525 responses.

Sampling Plan. The role of the sampling plan for the beliefs elicitation phase of the H.E.M. is to serve as a framework for identifying subjects who represent the major salient features of the population. As was the case in the domain definition, the assumption behind this strategy is that people who have certain characteristics are likely to have differing beliefs and attitudes from people who have certain other characteristics. Since the

population of Wise County has several identifiable characteristics that are in variance with national norms, it is essential to query people with those characteristics to insure that the data are indeed reflective of the attitudes and beliefs of the population of the area.

In this phase, the sample was drawn according to three major demographic dimensions that are salient to Wise County: levels of income, as defined by whether a family income is above or below the poverty level; levels of education, as defined by whether subjects have a high school diploma; and occupation, as defined by whether interviewees have coal related occupations. The number of subjects representing each dimension reflected the proportion of the population of the County that represents that dimension. For example, 33 percent of the households have incomes below the poverty level; therefore, 12 of the 36 respondents were selected on that basis. Approximately two-thirds of the population over 25 years of age do not have high school diplomas; 24 of the 36 subjects are without diplomas. Twenty-five percent of the working population have coal related jobs; 12 of the interviewees are employed in the coal industry. (See Figure 4).

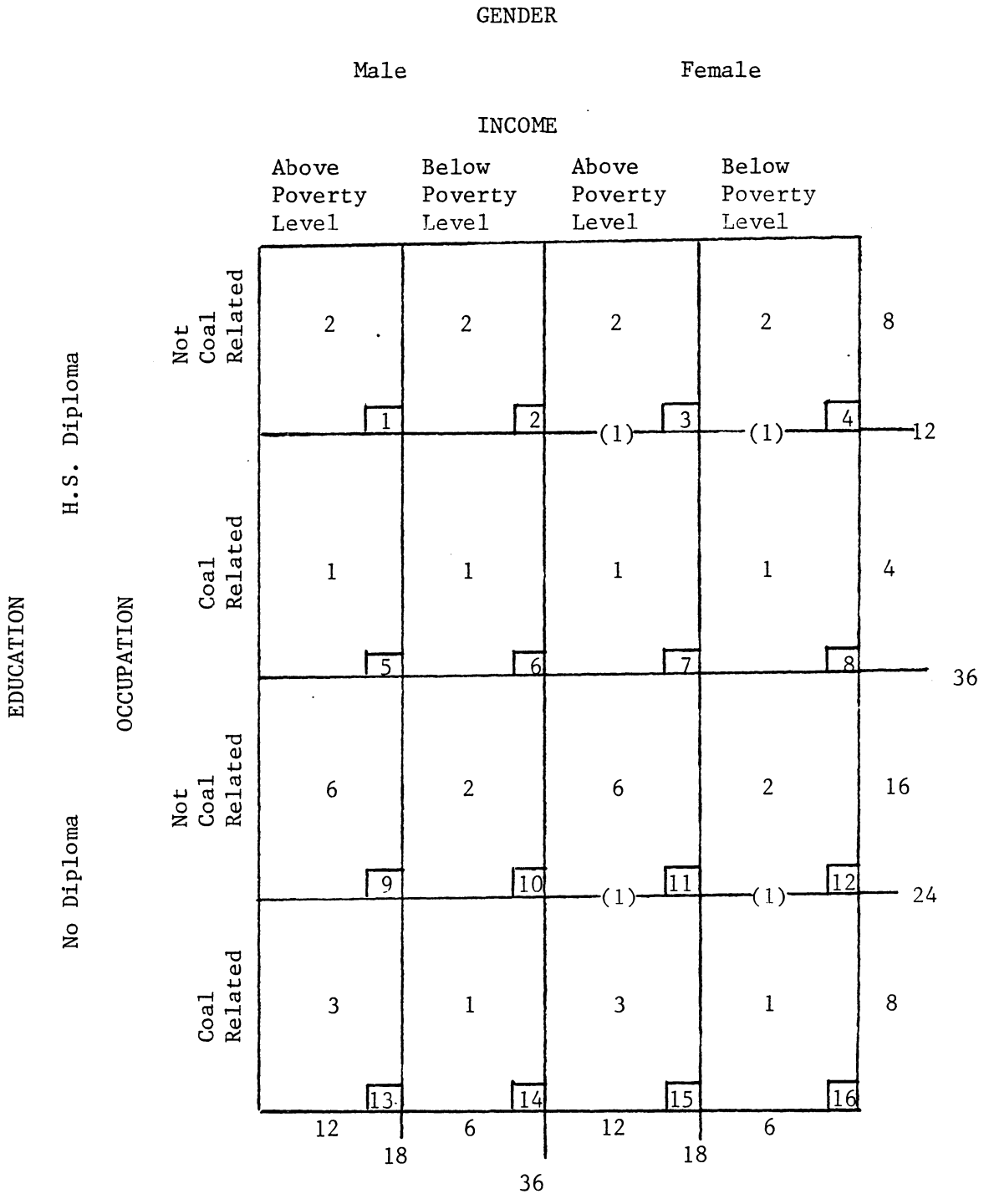


Figure 4. Sampling plan for the beliefs elicitation.

Given the proportion of the population representing each of these features, as previously described, the 36 subjects were divided as follows: 12 subjects are from households with incomes below the poverty level; 24 respondents do not have high school diplomas, and 12 interviewees have occupations related to the coal industry. Gender was added as a variable to insure that male and female perspectives were proportionate with the number of males and females in the population.

As Figure 4 shows, each of the 36 subjects met four criteria. For example, the two subjects in cell number one are male, have household incomes above the poverty level, have high school diplomas, and are engaged in occupations other than those related to the coal industry. Similarly, the one person in cell 16 is female, has a household income below the poverty level, does not have a high school diploma, and is engaged in a coal related occupation. The (1) located between cells shows that at least one woman among the number indicated in adjacent cells would be employed outside the home.

As was the case in the domain definition, subjects were located by local informants: guidance counselors, social services personnel, coal miners, and other interviewees.

Instrument. In general, the items selected for the two beliefs matrices (Appendices G, H) were the ones mentioned most frequently in the domain definition (Appendix F). Some items of special interest were also included. For example, "is bored" was

added to the attributes matrix to see if this item would serve as a counterpoint to other items such as "is dedicated" or "is motivated." Other items, particularly those in the services domain, were omitted if they referred to practices that are difficult to operationalize or if they are usually subsumed in any sound educational service: "encourage students to pursue their talents," for example. Field tests showed that some items could be reorganized so that redundant items could be deleted. Subjects indicated that "learns easily" was the same as "understands easily," so the latter was deleted. Subjects also said that "is logical" and "analyzes well" are the same thing; this similarity, in conjunction with the difficulty some of the subjects had in understanding the terms led to their being combined into "is a good problem solver." This expression was selected from the domain definition data.

The standard question for each item on the (X) axis of the first matrix was: Would you say that a person who is/has (X) is/does (Y)? For example, Would you say that a person who has a good memory is well liked? Respondents answered with a "Yes" or "No." Positive responses were recorded as 1, negative responses as 0. For the second matrix the standard question was: Do you think that (YY) is a good service for schools to provide to children who are/have (X)? For example, Do you think that higher levels of instruction is a good service for schools to provide for students who have a good memory? Again, responses were recorded as 1's and

0's.

Although each item on the matrices was a verbatim expression of the vernacular of the respondents, and although each item was field tested, some of the subjects had difficulty understanding some of the terminology. Particularly troublesome were the items on the services list. In order to explain such terms in the vernacular, a list of explanations was drawn from the data analysis of the domain definition (Appendix I). The term "enrichment activities," for example, had been described in the domain definition as "experiences that kids don't normally get in the classroom." These explanations were used whenever a respondent did not seem to understand a particular concept.

Data Collection. The interviews took place during the fall of 1982. Each interview lasted at least an hour and a half. The interviews took place in a variety of settings: homes, places of employment, schools, and restaurants. Although the interviews were tedious, all of the subjects were patient and cooperative. Demographic data were collected for each subject.

Data Analysis. Computation of the data for the beliefs elicitation was accomplished by the use of two computer programs designed specifically for the H.E.M. (Stefflre, Reich, & McClaren, 1972). The first program, called SUM, aggregated the data across each of the cells of each matrix (Appendix J). The second program, called GRID, used the output from SUM to calculate similarity coefficients among the items. These similarity coefficients show

which gifts/talents, attributes, and services are similar to other gifts/talents, attributes and services. The GRID program is also designed to cluster similar items according to a procedure called hierarchical clustering (For a detailed explanation of cluster analysis, see Johnson, 1967). The output from GRID shows graphically how items are perceived as being similar to each other. In this procedure, gifts and talents were clustered in terms of their similarity to other gifts and talents, attributes were clustered in terms of their similarity to other attributes, and services were clustered in terms of their similarity to other services. Since gifts and talents appeared on both matrices, there were two clusterings of these items; one cluster was for gifts and talents as they are related to attributes and the other cluster was for gifts and talents as they are related to services (Appendix K).

Rank Ordering

As the name implies, the rank ordering phase of the Heuristic Elicitation Methodology determines the order in which respondents rank the constructs being investigated. In this stage of the study, subjects were asked to rank order the items that emerged from the analysis of the beliefs matrix based on their personal beliefs about the importance or appropriateness of the items. The questionnaire consisted of three sets of items (Appendix L). In the first set, respondents indicated the items that best match their ideas of what it means to be gifted or talented. In the second set, subjects showed which items best describe a person who

has gifts or talents. In the third set, respondents designated which services are good for developing children's gifts and talents.

Sampling Plan. The sampling plans for the domain definition and the beliefs elicitation focused on identifying subjects who represent certain distinguishing characteristics of the population of Wise County. The sampling plan for the rank ordering was designed to insure that the information obtained represents the population in general. Such a plan enhances the generalizability of the results. To that end, a modified random sampling plan was employed. Questionnaires were sent to 475 Wise County residents whose names were drawn at random from a list of registered voters; 179 residents completed and returned the forms. To enhance the rate of return, respondents were provided an opportunity to enter a raffle for $25.00. The cover letter explained the terms of the raffle (Appendix N). A stamped return envelope also served to encourage subjects to complete the questionnaire.

Instrument. The questionnaire for the ranking task asked respondents to rank order the items that emerged from the cluster analyses of the beliefs elicitation. These items were in three lists: gifts/talents, attributes, and services. The instructions for the gifts/talents list asked respondents to show which items most closely match their ideas of what it means to have gifts or talents by numbering each of the 18 items according to their relative importance. Similarly, for the list of attributes,

respondents were to rank the 20 items according to the extent to which they describe a person who has gifts or talents. For the list of services, subjects were to order the 13 items according to the degree to which the services are likely to help students develop their gifts and talents.

In some instances, such as "is good at carpentry," or "is good at mechanics," the two items were combined - "is good at carpentry or mechanics." In other instances, where one item subsumed others, certain items were eliminated. For example, "learns easily" and "learns on their own" were eliminated in favor of "is intelligent." In cases where items were eliminated, the term selected to represent the cluster was the one that field tests indicated was the most likely to be easily understood by the recipients of the questionnaire. Each of the items eliminated were from clusters with similarity values above .95, regardless of whether the gifts/talents were clustered by attributes or by services.

Certain items on the list of attributes and services also had similarity above .95. "Loves their field" and "has a good knowledge of their field" combined to read "knows and loves their field." The attributes "is thoughtful" and "has a good attitude" clustered with "is helpful." Since these items were very similar, "is helpful" was chosen to represent the cluster, and the other two items were eliminated. For the services, "opportunities to spend time with other gifted/talented students" and "opportunities to share talents" clustered with "encouraging interests" and was thus

combined to become "opportunities to spend time sharing gifts, talents, or interests."

Data Collection. The questionnaires, along with cover letters, raffle tickets, and stamped return envelopes were mailed to 475 subjects. See Appendix M for the cover letter and raffle ticket.) A local post mark and return address were used in the belief that residents would be more likely to respond to a questionnaire from a fellow resident than one from a distant university student. Residents had two weeks in which to return the questionnaires. Surprisingly, approximatley 30 of the 179 returned questionnaires did not include the raffle tickets. Several subjects enclosed notes with their questionnaires (Appendix N).

Data Analysis. Since the purpose of this phase of the H.E.M. is to determine residents' perceptions of which items best describe a concept, mean scores were calculated for each item. The items were rearranged in rank order, with the lowest means indicating the highest rank. Tests of significance of difference of means were also calculated. These procedures were calculated through the use of the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) and an ANOVA program developed by Wolfle (1982).

Reliability

Studies employing the Heuristic Elicitation Methodology have reported test/retest correlation coefficients for matrices and rankings as high as .963 as indications of reliability. In a study

in San Jose of Mexican Americans' and non-Mexican Americans' preferences for alternative living environments, Clement et al. (1974) conducted a test/retest reliability check of the rank ordering. After five months, with a smaller sample, product moment coefficients of .919 and .963 were found for the two samples respectively. Harding, Clement, and Lammers (1972) reported split half reliabilities of .855 and .899 for two matrices in a Samoan study of attitudes towards health and family planning services.

In this study, reliability coefficients for the beliefs matrices were calculated in two ways. First, a split half reliability was calculated for each matrix as a whole. The KR 20 for the gifts/talents by attributes matrix was .80; the KR 20 coefficient for the gifts/talents by services matrix was .81. Second, KR 20's were figured for each row and each column (Appendix O). For the gifts/talents by attributes matrix, these figures ranged from .53 to .95. For the gifts/talents by services matrix, the reliability coefficients ranged from .58 to .96.

For the rankings, Kendall's coefficient of concordance (W) (Siegel, 1956) was calculated for each of the three sets of items. As the name suggests, this procedure provides an indication of the extent to which the respondents agree upon the relative ranking of items. The reliability coefficients were .26 for the gifts/talents list, .32 for the attributes list, and .03 for the services list. These figures indicate that there was little agreement among the respondents as to how the items should be ranked.

This lack of agreement could be attributed to several factors, either singly or in combination. The results of the beliefs elicitation indicated that the respondents perceive the items within each domain as being very similar. If this is the case, it would be difficult for respondents to rank order the items; in fact, high reliability coefficients might be suspect. A second possible explanation for the low reliability coefficients is that, regardless of the close similarity among items, respondents have not formulated opinions about the concepts under investigation, and they either do not know or do not care about the ranking of items. A third possibility is that the low coefficients are a function of the length of the lists of items. In most studies using the Heuristic Elicitation Methodology, respondents for the rank ordering are asked to order items that are written on cards. In that way, the respondents can shift the cards around until they are satisfied with the ordering. In such cases, long lists of items, i.e., lists consisting of more than ten items, can be easily manipulated. In this study, temporal and fiscal restraints precluded the use of the card-interview strategy.

Validity

In ethnographic studies, as in experimental studies, there are several possible threats to validity. Among the threats that could have effected the validity of this particular study are instrumentation, selection bias, investigator bias, maturation, and reactive effect. Fortunately, many of the features built into the

H.E.M. help control these factors.

In order to control for instrumentation effects, validity requires that the researcher demonstrate that the instrument actually measures the construct that it is intended to measure. In this study, the three instruments were aimed at determining subjects' perceptions of the three domains: gifts/talents (abilities), attributes (identifiers), and services. The H.E.M. provided a vehicle for insuring that the instruments did indeed ascertain perceptions about these domains. First, the questions selected for the instruments asked for the respondents' perceptions directly rather than indirectly. In essence, the questions asked, "What is giftedness," "How can gifted people be identified," and "What should schools do to develop children's gifts and talents? Secondly, each question was phrased in the local patois, with careful attention being given to the preservation of respondents' terminology. Thirdly, the respondent-centered nature of the items tapped the respondents' perceptions rather than those of the researcher.

In ethnographic studies, validity also requires that the researcher demonstrate that the subjects selected for study be representative of the population for which the researcher wishes to generalize and that the instruments be similarly appropriate (Denzin, 1978). Each of the three samples of this study met this criterion. The samples for the domain definition and the beliefs elicitation were drawn to reflect the salient features of the

general population of Wise County. The subjects for the preference ranking were chosen at random; randomization not only enhances representativeness, but also helps to control extraneous variables.

The H.E.M. provides several mechanisms for controlling investigator bias. As previously mentioned, the items for the instruments were determined by sources other than the researcher. For the domain definition, the questions were motivated by the research questions and were colloquial in nature. The items for the beliefs elicitation came from the results of the content analysis; the items for the rank ordering came from the results of the beliefs elicitation. The strategies employed in the H.E.M. help control for history and maturation. To control for the effects of history, subjects were not told in advance what the questions would be; thus, the respondents' opinions expressed were likely to have been those at the time of the interview. Since each subject was queried only once, there was no possibility of maturation.

A factor that could have had a bearing on the validity of this study is the reactive effect. Giftedness can be a sensitive topic, especially for populations that are stereotyped as having below average intelligence. The very act of asking people their opinions about giftedness could have elicited defensive or compensatory responses. Or, the act of asking certain individuals about giftedness could have suggested to those individuals that they are themselves gifted in some way. If this were the case, a much more

intensive study would be required in order to determine the ultimate effect on the data.

In ethnographic studies, one of the primary means of improving validity is by triangulation, or multiple methods of observation. The principal behind triangulation is that since no one method completely solves the problem of rival causal factors, multiple methods must by employed (Denzin, 1978). By incorporating three different methods into one larger methodology, the H.E.M. provides a means of triangulation.

External validity is a matter of generalizability. The question asked is: to what extent can the results of this study be generalized to larger populations? Since many of the possible threats to validity were controlled, one could conservatively estimate that the results of this study are valid indications of some of the beliefs and attitudes of the residents of Wise County, Virginia, from October 1982 to May 1983. These results are outlined and discussed in the next chapter.

Chapter III

ANALYSIS AND RESULTS

Introduction

The preceding chapter describes the three stages of the Heuristic Elicitation Methodology. Each of these stages calls for a different type of sample, instrument, and data; consequently, each stage also calls for a different type of procedure for analyzing the data. This chapter describes those procedures and presents the results of the analyses.

Some of the data analysis procedures have been especially adapted for this study and are, therefore, explained in detail. The results of these analyses form the framework for a site specific definition of giftedness, a list of attributes of gifted people, and a list of educational services for gifted children. In Chapter IV, the three site specific domains are compared with their conventional counterparts.

Domain Definition Analysis

Collection of the data for the domain definition revolved around the elicitation of a wide range of perceptions regarding the three domains of interest: (1) gifts/talents, (2) means of identifying gifted people, and (3) appropriate educational services for gifted children. Analysis of the data centered around the categorization and tabulation of those perceptions. For the

analysis, a procedure designed to systematically analyze message content was used. This technique is content analysis.

Content analysis has two major stages, categorization of items and compilation of items. The first stage is the definition of a universe of content to be analyzed; in this case, the universe was composed of the three domains. Each response to the interview questions was assigned to a domain. Of particular concern was the categorization of responses to questions 2, 3_1, and 3_2: What particular things about (X) make you think he/she is gifted or talented? What particular things does (X) do to make you think he/she is (Y)? and What makes it possible to (Y)? For these three questions, responses categorized as belonging to the gifts/talents domain were labeled "A" for abilities; those categorized as means of identifying gifted people were labeled "I" for identifiers. Some items did not fall readily into one or the other of these two categories and were labeled "AI," meaning that they could be either abilities or identifiers. Services were not labeled because all of the responses to question 4 were services and were therefore easily distinguishable from the items of the other domains.

The first step in determining whether responses to questions 2, 3_1, and 3_2 should be labeled as "abilities," "identifiers," or "other" was to inspect the answers to questions 3_1 and 3_2 applying operational definitions of the concepts to each response. If an item could be categorized as a "kind of thing that a person can do," it was labeled an ability. The key

word is "can." If an item was a "behavior" (something a person does) or a "characteristic," (the way a person is), it was labeled an identifier. If an item was "extrinsic to the individual" it was labeled an "other." As each item was checked against these definitions, it was tentatively labeled as an A, I, AI, or O.

The second step was to apply a test that was designed to force the semantic differentiation between abilities and identifiers. This test was built into the instrument. As stated in Chapter II, the purpose of the test was to provide a vehicle whereby the responses to questions 3_1 and 3_2 could determine whether responses to question 2 (Y) were abilities or identifiers. Question 3_1 was aimed at determining identifiers for (Y); according to the test, if responses to 3_1 were indeed identifiers, then responses to 2 (Y) should have been abilities. If responses to 3_1 were abilities, the responses to 2 (Y) could have been either abilities or identifiers. Question 3_2 was aimed at determining the underlying ability behind Y. If Y was an identifier, responses to 3_2 should have elicited other identifiers; if (Y) was an ability 3_2 should have elicited outright designations of (Y) as an ability, i.e., respondents should have provided responses such as "it's a gift" or "it's a talent." Unfortunately, in many instances neither the operational definitions nor the built-in test proved powerful enough to label the items with the desired degree of consistency and accuracy. An example of a response that was difficult to categorize definitively

as either an ability or an identifier was "can do a lot of things well." This response describes both a behavior (doing a lot of things) and an ability (being capable of doing a lot of things). Since the item did not fit neatly into either category, it was labeled AI.

The ultimate test for whether an item was an ability or an identifier was that in order for it to be classified as an ability, it must have been so designated explicitly by one of the respondents. The establishment of this test was a subjective decision on the part of the researcher. In essence, the test forced the semantic differentiation between gifts/talents and identifiers. Given the subsequent findings from the beliefs elicitation and the rank ordering, forcing the differentiation may not have been necessary. The decision to maintain the categories was made in the belief that the respondent-centered nature of the methodology, while being fallible, was powerful enough to produce a reasonable list of items that the respondents considered to be gifts or talents. A second consideration in making the decision was that most of the items could be easily categorized.

The second stage of content analysis is the compilation of the items in each of the domains. Each response was assigned to one of five lists: abilities (A), identifiers (I), abilities and identifiers (AI), services (S), and other (O). Since there were hundreds of responses, these lists were subdivided into preliminary categories (Appendix P). As the items were being assigned, a

tabulation was made of the frequency of the items within each category. Once the tabulations were complete, the categories were then checked against each other across domains, e.g., intellectual abilities (A) were checked against intellectual identifiers (I) and intellectual abilities or identifiers (AI). The purpose of this cross check was to avoid the placement of items in more than one domain. If items had been included in more than one domain, it would be difficult to operationalize the list of identifiers for identifying gifted children. For example, if "is a good student" were listed as both an ability and an identifier, it would be useless to say that one way of identifying a good student (the ability) is to find out if he/she is a good student (the identifier).

The final step of this phase was the grouping of similar responses within categories. Items were grouped and regrouped to the point where they subsumed related items but remained distinct from other groups of items. In all, there were four iterations of the grouping process. In instances where there were several terms for the same concept, the terms that the respondents mentioned most frequently were the ones that were retained; redundant terms were eliminated. The resulting items became the basis for the development of the instruments for the beliefs elicitation. In the development and field testing of the instrument, some of the items underwent editorial changes. During the field test, several respondents said that "is reserved" has nothing to do with being

gifted. Since this was one of the lower frequency items, it was eliminated. The item "is bored" was also a low frequency item, but it was maintained on the list in order to create a diversity of terms. In the final analysis, more items of this nature should have remained on the list; the diversity of items might have improved the reliability coefficients in subsequent stages.

Another low frequency item that should have remained on the list was "does well on tests." Although the item was mentioned by only one subject in the domain definition, subjects in subsequent stages should have had an opportunity to decide whether the item does or does not belong on a list of items that are indications of giftedness.

Domain Definition Results

Abilities. The tabulation of all of the responses to the questions of the domain definition interview yielded lists of items that are interesting in both number and nature. Of particular significance is the listing of 23 abilities associated with giftedness (Figure 5). Although the items in the abilities list were subsequently reduced to 18, the list contained a higher number of abilities than is usually found in conventional definitions of giftedness. The current federal definition, for example, has five categories of abilities. As numerous as the items are, this list may still be incomplete. Recall that the list contains only those items that were specifically designated by respondents as being gifts or talents. Given the difficulty in distinguishing

gifts/talents from attributes, there may be some items on the attributes list that belong on the gifts/talents list.

The most frequently mentioned items were artistic and musical abilities, with counts of 46 and 44 respectively. According to the respondents, people who are endowed with artistic ability are those who can draw or paint well, or who can do crafts and "handiwork." People endowed with musical ability are those who can either sing well or play a musical instrument well. Musical ability also encompasses "having an ear," i.e., being able to listen to music and then play it on an instrument without reading notes.

Frequency	Item
46	artistic
44	musical
31	seeks information/training on his/her own
29	good student
27	expresses self well
26	learns easily
25	gets along well with people
23	carpentry
22	good memory
19	getting and keeping a good job
18	understands
17	mechanical
16	creative
16	can do a lot of things well
16	good at teaching
15	intelligent
11	good at math/science
11	good at English
11	analyzes
10	dances well
10	logical
10	athletic

Figure 5. Gifts/talents (abilities) according to frequencies.

The respondents described a person who seeks information or training on their own as someone who is "self-taught." Sometimes this item refers to adults who develop a proficiency in a certain area by reading manuals or reference materials. This type of gift can also be demonstrated by a child who teaches himself to read. A good student makes good grades and is well behaved. The ability to express oneself means the ability to converse fluently and with ease. Sometimes this ability is related to the "gift of gab" or to the ability to tell stories or give speeches. This facility seems to be as much a social ability as it is an intellectual ability.

Someone who learns easily "catches on quickly" or "doesn't require much instruction." The expression "gets along well with people" is applied to people who are sociable. Respondents said that people with this ability get along well with peers, older people, and children. In general, such a person "can handle difficult situations well," i.e., they can be diplomatic. Ability in carpentry refers to people who are good at woodworking, such as cabinetmakers or construction workers. A number of the gifted people mentioned in the data were carpenters in coal mines.

A person with a good memory retains what he learns; he has good recall. Getting and keeping a good job refers to the economic security of being able to avoid unemployment. A similar item, "makes it on their own" refers to someone who is "raised up poor" and manages to become successful by "working for what he got." These people lead a "gifted life style," i.e., they have

respectable jobs, nice homes, cars, boats, etc.

One who understands, "grasps things." A person is said to be mechanical if he has a knack for working on machinery, especially mining equipment and automobiles. Carpentry and mechanics are seen as being relatively stable occupations in times of economic uncertainty. A creative person is one who has a good imagination or one who can think of different ways of doing things. Being able to do a lot of things well means being able to do different jobs or tasks well; it also means having several talents.

At first glance, one might assume that the ability to teach refers mostly to adults (i.e., school teachers), but such is not the case; in several instances "good at teaching" refers to children who teach other children, or workers who teach other workers. An intelligent person is a "bright" or "wise" person who "knows a great deal" and/or "has a high mentality." Two of the items are related to academic aptitude: "good at math/science" and "good at English."

The two items mentioned the least frequently were "dances well" and "is athletic." The ability to dance well was elicited from upper middle class respondents who are familiar with children who have been trained in ballet, tap, and jazz. This ability, then, refers to "formal" dancing rather than to juke box dancing. Athletic ability, as elicited, pertains to football, baseball, basketball, and gymnastics. It is interesting to note that all but one of the references to athletic ability were for males.

Running through the list of gifts and talents are a number of notions about giftedness. Several of the items reflect the same notions. For example, "artistic" and "musical" are related to aesthetic sense. "Good at math/science," "good at English," "good at teaching," and "is a good student" are items that refer to the ability to manage information, i.e., being a good learner or a good teacher. Several items appear to be intellectual in nature: "learns easily," "good memory," "understands," "intelligent," "analyzes," and "logical." Other items have to do with work or vocations: "carpentry," "mechanics," and "getting and keeping a good job." At least two items are related to physical dexterity, "dances well" and "is athletic."

The remaining items may or may not share features with other items. "Seeks information on his/her own" is related to motivation or initiative. "Expresses self well" is a combination of intellectual and social ability. "Gets along well with people" refers to social adeptness or awareness. "Makes it on their own" refers to hard work and success. "Creative" is, of course, a function of creativity. "Can do a lot of things well" reflects the notion of multi-talent.

In summary, it is possible to categorize these notions of giftedness under the headings of: aesthetic sense, management of information, intelligence, vocation/work, physical dexterity, motivation/initiative, intellectual-social ability, social adeptness, success, and multi-talent.

Identifiers. The most noteworthy aspect of the list of identifiers is the absence of references to conventional means of identifying gifted people, such as tests and rating scales. Considering that tests and rating scales are the means most commonly used by school systems to identify gifted and talented children, it is somewhat surprising that these devices were not mentioned frequently enough to be included on the list of identifiers; they were mentioned, however. Another noteworthy aspect of the list of identifiers is that all of the identifiers for the domain definition are attributes of gifted people. For this reason, items belonging to this domain are labeled as "attributes" in subsequent stages of the methodology. (See Figure 6.)

Frequency	Item
41	dedicated
28	wins awards, competitions
28	loves his work/field
26	motivated
25	does quality work
21	thoughtful
19	likes challenge
14	coordinated
13	has good knowledge of their field
11	helpful
11	energetic
11	reserved
11	likes to read
10	works towards goals
10	trustworthy
10	creates designs without a pattern
9	has varied interests
9	studious
9	well behaved
8	overcomes obstacles
8	performs at a level above that of people his/her age
8	good attitude
7	listens well
6	has own way of doing things
6	bored

Figure 6. Attributes (identifiers) according to frequencies

Of the 25 items on the list of identifiers/attributes, all but two are positive characteristics. "Is bored" has a negative connotation, whereas "is reserved" can be either positive or negative. Many of the items are terms that could be used to describe any individual, regardless of whether the person is gifted: "well behaved," "coordinated," "has varied interests," for example. Other items represent some notions of the gifted that appear on conventional identification measures; "likes to read" and "performs at a level above that of people their age," for example are very similar to items found on the Renzulli/Hartman Scale for Superior Students (1971).

In general, the items on the list of attributes are of five types: motivational, social, vocational, creative, and intellectual. Items of a motivational nature describe gifted people as being "motivated," "dedicated," "energetic," as "working towards goals," and as "overcoming obstacles." For the social attributes, gifted people are perceived as being "thoughtful," "helpful," and "trustworthy," as well as having a "good attitude" and"listening well." The vocationally oriented items are "loves their work/field," "has a good knowledge of their field," and "does quality work." Items that reflect the notion of creativity are "creates designs without a pattern" and "has their own way of doing things." Items that are generally associated with intelligence include "likes to read" and "studies a lot."

If there is a common thread running through these items, it is

that gifted people are perceived as being "good people" with a strong work ethic. Some of the items that were subsumed by the items appearing in Figure 8 describe gifted people as being honest, reliable, and sincere; they are aware of other people's feelings. When it comes to work, gifted people are conscientious, particular, and hard working; they take pride in their work.

Services. Unlike the list of attributes, there were no major surprises regarding the list of services. Given the work oriented nature of the gifts/talents and the attributes, the appearance of "vocational programs" on the list of services was not unexpected (see Figure 7).

Frequency	Item
29	classes in areas of gifts and talents
26	special instruction within the regular classroom
20	quality materials
18	enrichment
18	vocational programs
16	individualized instruction
16	encourage interests
15	higher levels of instruction
15	qualified instructors
12	involving parents/community
11	career counseling
11	opportunities to share talents
9	letting students progress at their own rate
6	opportunities for gifted/talented to spend time with other gifted/talented children
5	stressing personal relations

Figure 7. Services according to frequencies.

A second item, "quality materials" is related to vocational training. While several of the interviewees indicated that quality materials should be part of any quality school program, others indicated that these materials were even more important in vocational areas. In the past, the schools have not used state-of-the-art materials and equipment in training students, especially in the areas of mining equipment operations and automobile mechanics. The situation seems to have improved somewhat in recent years.

In addition to quality materials, respondents indicated that there are several types of services that should be part of any quality educational experience: "qualified instructors," "involving parents/community," "career counseling," and "stressing personal relations." Other items may or may not be more specific to gifted programs: "classes in areas of gifts/talents," "special instruction within the regular classroom," "higher levels of instruction," "opportunities to spend time with other gifted/talented (students)," and "opportunities to share talents with other gifted/talented children." There were four items that are perceived by some interviewees as being appropriate for all children and by other interviewees as being particularly appropriate for the gifted: "enrichment," "individualized instruction," "encouraging interests," and "letting students progress at their own rate."

Summary of the Results of the Domain Definition

The content analysis of the domain definition resulted in three sets of items. The first comprised 23 items that the respondents perceive as being gifts and talents. The second set, which contains 25 items, is a list of respondents' perceptions of attributes of gifted people. The third set of items is made up of 15 educational services that are perceived as being appropriate for gifted children.

In the list of gifts and talents, the items mentioned most frequently were those pertaining to artistic ability and musical ability. Many items are generally associated with intellectual ability: analyzes well, is logical, or learns easily. Several of the items are of a vocational nature: mechanical ability, ability in carpentry, and getting and keeping a good job. Several items are related to managing information: "is good at math or science," "is good in English," "is good at teaching," and "is a good student." Other types of gifts and talents are demonstrated by people who dance well or those who get along well with people.

One interesting aspect of the first set of items is that not all of the items are abilities. A basic premise of this study has been that giftedness is related to the exceptional endowment of abilities. This belief has its roots in the work of Galton (1869) who described "genius" in terms of categories of abilities. Since Galton's time, researchers and educators have perpetuated the belief that the concept of giftedness can be broken down into

categories of abilities (cf. P.L. 95-561, 1978). For the respondents, there are at least three items that are not abilities per se. One such item is related to motivation, hard work, and success - "makes it on their own." A second item is related to security, hard work, and pride in workmanship - "getting and keeping a good job." The third item is related to curiosity and initiative - "seeks information on his own."

The realization that not all gifts and talents are abilities raises the question: if they are not abilities, what are they? A search for commonalities or differences among the items leads to the conclusion that gifts and talents are perceived as being related to a combination of various factors. Throughout the data, there were several factors that pertain to one or more areas of giftedness: intelligence, creativity, motivation/initiative, pride in workmanship, physical dexterity, aesthetic sensitivity, social awareness/adeptness, success, and hard work. Physical dexterity, for example, is a factor related to both the ability to dance and athletic ability.

Of the items on the list of identifiers, the most conspicuous were the ones that were missing. When the study was being designed, one of the reasons for labeling the items in the second domain as identifiers was the expectation that they would include some of the traditional means of identifying gifted people. References to tests did indeed appear, but not with sufficient frequency to be included in the final list of items. As it turns

out, all of the "identifiers" are attributes of gifted people, i.e., they are either behaviors or personological characteristics. For this reason, the label "identifiers" was changed to "attributes."

Throughout the list of attributes are two threads. One thread pertains to "goodness" of people. Gifted people are described as being thoughtful, helpful, and trustworthy. A second thread is related to an orientation towards work. Gifted people love their work, they work towards goals, and they do quality work. These same threads run through the items pertaining to services, most notably with "vocational programs" and "stressing personal relations." Given the vocational nature of the items in the other domains, the appearance of vocational programs as an educational service for gifted children is not unexpected. This type of service is unusual for most conventional gifted programs, however. The extent to which the items that emerged from the domain definition are similar to or different from their conventional counterparts will be discussed in the next chapter.

Beliefs Elicitation Analysis

As the items emerged from the domain definition data analysis, it was sometimes difficult to determine the point at which they should be grouped with similar items. Of particular concern were the items that educators usually associate with intelligence. Are they so closely related that one term could be used to represent the others? Does "intelligent," for example, mean the same thing

as "analyzes" or "logical"? To protect the respondent-centered nature of the items and of the data analysis, items were left intact if there was a question as to whether they should be grouped. The beliefs elicitation phase of the H.E.M. provides a vehicle for allowing the respondents to decide which items are related to or distinct from other items.

The underlying assumption of the beliefs elicitation is that the three domains being studied are "complex objects or concepts that have properties, attributes or features that make them distinguishable from or similar to each other" (Christen, 1973, p. 30). The more features that items have in common, the more similar they appear.

The first step in the analysis of the beliefs matrices is the aggregation of the data across each cell. A computer program called SUM (Stefflre, Reich, & McClaren, 1972) performs this task. The output from SUM is then used as input for a second program called GRID (Stefflre et al., 1972). The GRID program calculates similarity coefficients for items, i.e., indices of the extent to which each item in the matrix is similar to each other item. The program also provides graphic representations of clusters of similar items; this clustering procedure shows "whether there is any structure (i.e., natural arrangement of the objects into homogeneous groups) inherent in the data themselves" (Johnson, 1967, p. 241).

Similarity coefficients are numbers that range from 0.00 to 1.00; these numbers show the similarity of two rows or two columns. In essence, the computation consists of calculating the number of "matches" (non-zero) between every two rows (or columns), multiplying by two, and then dividing by the combined row (or column) totals for each pair. The resulting number is the similarity coefficient for each pair of columns (or rows) in the matrix (Stefflre et al., 1972).

The similarity coefficients are then used as data for the sorting, or clustering, of items. The sorting is accomplished by the program telling the computer to make successive passes through a matrix, applying a weaker criterion of equivalence for each pass. For the first pass, the range of equivalence is usually 1.0 to 0.9, for the second pass, 1.0 to 0.8, etc. Numbers that fall within the range for a given pass are attached to one end or the other of a linear equivalence chain, depending on its relative similarity to the items on one end or the other; thus, similar items are located near each other.

Similarity coefficients also serve as the basis for the hierarchical clustering analysis. Stephen Johnson (1967) describes how this procedure works:

> We assume we have n objects, represented by the integers 1 through n. We have also a sequence of m + 1 clusterings, C_0, C_1,..., C_m, and with each clustering C_i we have a number a_i, its value. We require that C_0 be the weak clustering of the n objects, with $a_0 = 0$, and that C_m be the strong clustering. We require also that the numbers a_i increase; $a_{i-1} \leq a_i$, for j = 1, 2,..., m, and the clusters "increase"

also, where again $C_{i-1} < C_i$ means that every cluster in C_i is the merging (or union) of clusters in C_{i-1}.

In this study, the hierarchical clustering scheme is the focal point of the data analysis for the beliefs elicitation. Clusters of items paint a picture of the ways in which the respondents perceive the various components of giftedness. It is conceivable that the respondents would believe that two or more items are similar while conventional conceptions might present the items as being dissimilar.

The GRID program produced four graphic representations of the hierarchical clustering of items: (1) gifts/talents clustered on the basis of being matched with attributes, (2) gifts/talents clustered on the basis of being matched with services, (3) attributes clustered on the basis of being matched with gifts/talents, and (4) services clustered on the basis of being matched with gifts/talents. Figures 8, 9, 10, and 11 show these cluster analyses.

Beliefs Elicitation Results

Gifts and Talents. The graphic depiction of hierarchical clustering schemes shows how items are clustered on successive iterative cycles. These cycles are represented by the rows of dashes. In each of the four graphs, clustering begins with two items being clustered and continues row by row, into larger clusters until all items have been clustered. In Figure 8, for example, the two items most similar to each other, and the first to

cluster, are item five, "is a good problem solver," and item 13, "learns on their own." Their similarity value, or strength, is .976. On the second cycle, item 19, "makes it on their own" clustered with item 20, "can do a number of things well" with a similarity value of .969. Items continue to cluster until the twentieth cycle, at which point all items have clustered. The similarity value for the cluster of all items is .839.

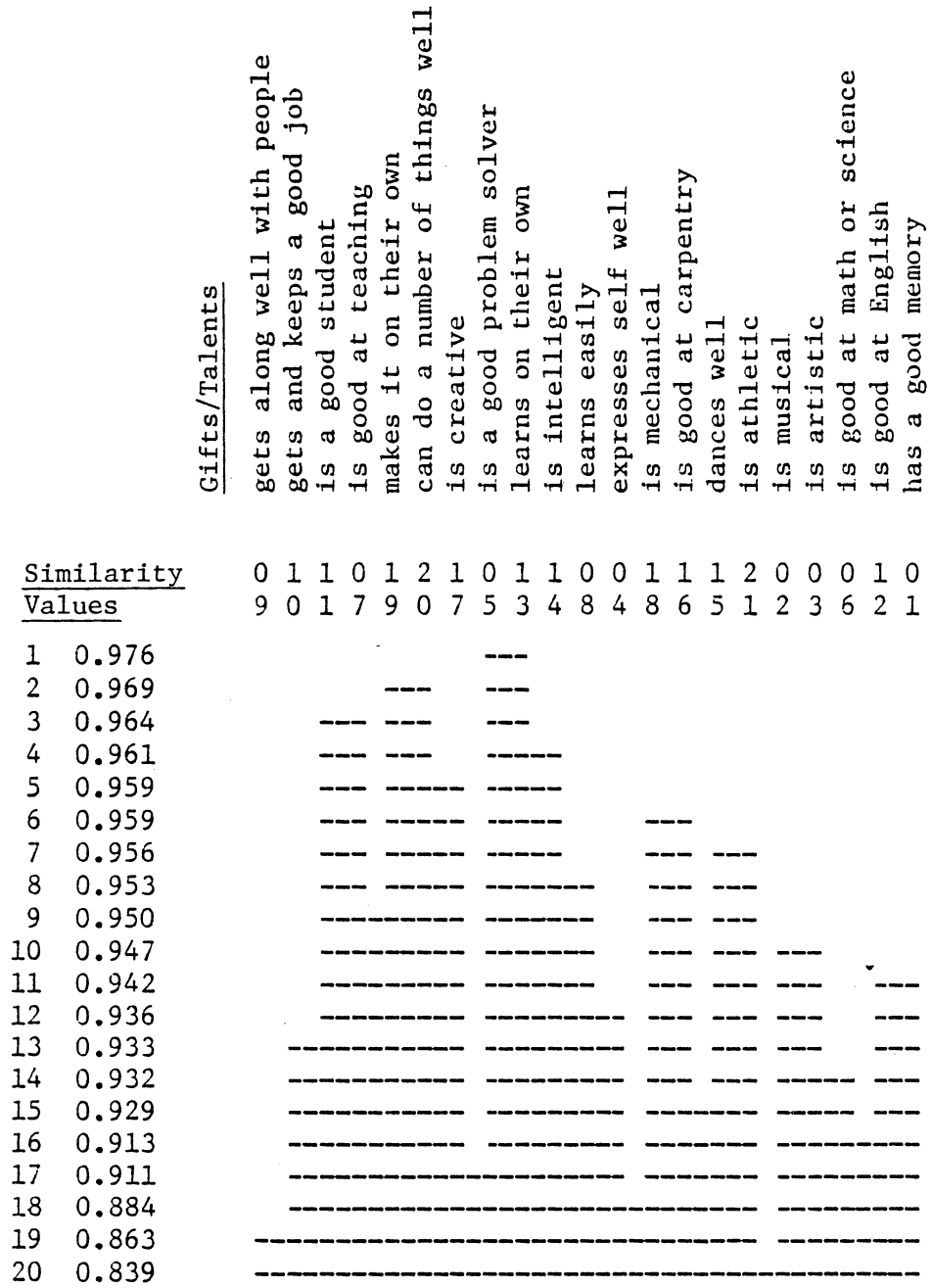


Figure 8. Hierarchical clustering of gifts/talents by attributes.

The second clustering scheme (Figure 9) shows gifts/talents clustered by services. In this graph, items 16, "is good at carpentry" and 18, "is mechanical" were the first to cluster. As in the first graph, all of the items were perceived as being very similar, as indicated by the .88 similarity value for the final clustering.

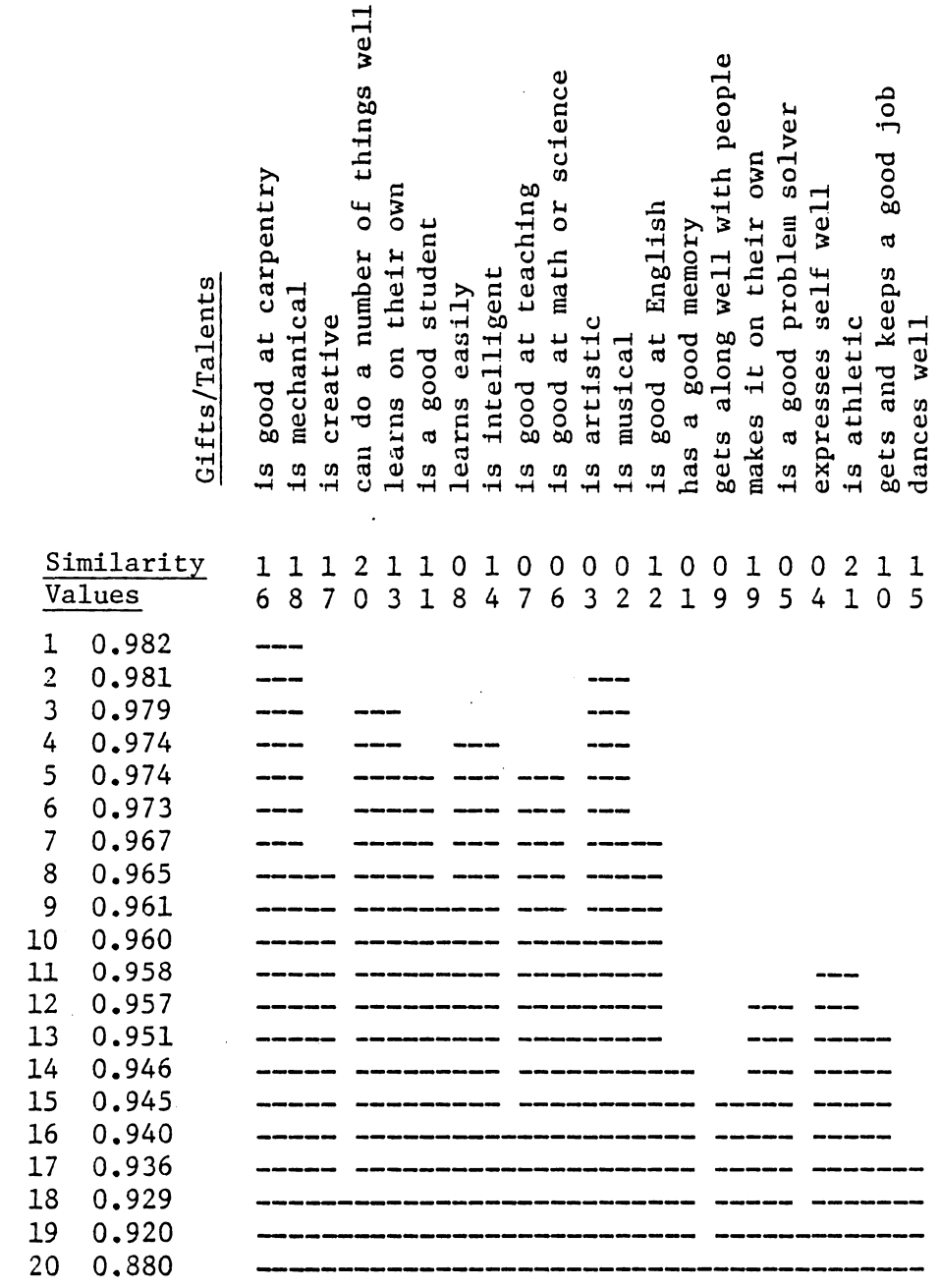


Figure 9. Hierarchical clustering of gifts/talents by services.

It is interesting to note that some items clustered with the same items on both lists, e.g., "is good at carpentry" with "is mechanical," while other items did not. "Is creative" clustered first with "is good at carpentry" and "is mechanical" on the gifts/talents by services clustering scheme, but clustered with "makes it on their own" and "can do a number of things well" on the gifts/talents by attributes scheme. In either case the clustering is logical.

Although both matrices yielded similar results, showing that gifts/talents are very similar, the data from the gifts/talents by attributes matrix are more difficult to interpret than those from the gifts/talents by services matrix. The analysis of the data from the domain definition suggested that the distinction between gifts/talents and attributes is not clear in people's minds. If these items are indeed closely related, putting them on the two axes of the gifts/talents by attributes matrix would be putting items from essentially the same domain on the matrix, i.e., the matrix would represent more of an X by X relationship than an X by Y relationship.

Because the items on the gifts/talents by services matrix are from two domains that are perceived by the respondents as being distinct, the data from the gifts/talents by services matrix are more useable. Of primary interest are the high similarity values for the final clustering of all items. High values suggest that all segments of the population agree that all of the educational

services listed are appropriate for all of the gifts and talents listed. Another possible interpretation is that people who are not accustomed to thinking about or identifying gifts and talents for educational purposes, i.e., people who are not in general familiar with school policies and procedures, do not make clear distinctions among gifts and talents when considering educational services.

Attributes. This last speculation is substantiated somewhat by the clustering schemes for attributes and services. On the attributes graph (Figure 10), all but four of the items clustered above .819. "Is trustworthy" and "is well behaved" clustered with each other at .939, and with "is physically coordinated" at .819, but did not cluster with all of the other items until the similarity value was at the .720 level. "Is bored" clustered with a value of .203. The latter figure is not surprising when one recalls that "is bored" was included on the matrix primarily as an indication of how that item was perceived in relation to items of a more motivational nature; all other items were placed on the matrix based on the frequency of responses from the domain definition data. The discernment of "is bored" from the other items shows that the subjects do indeed make some distinction among items, but that in general they perceive gifted and talented people as having similar attributes.

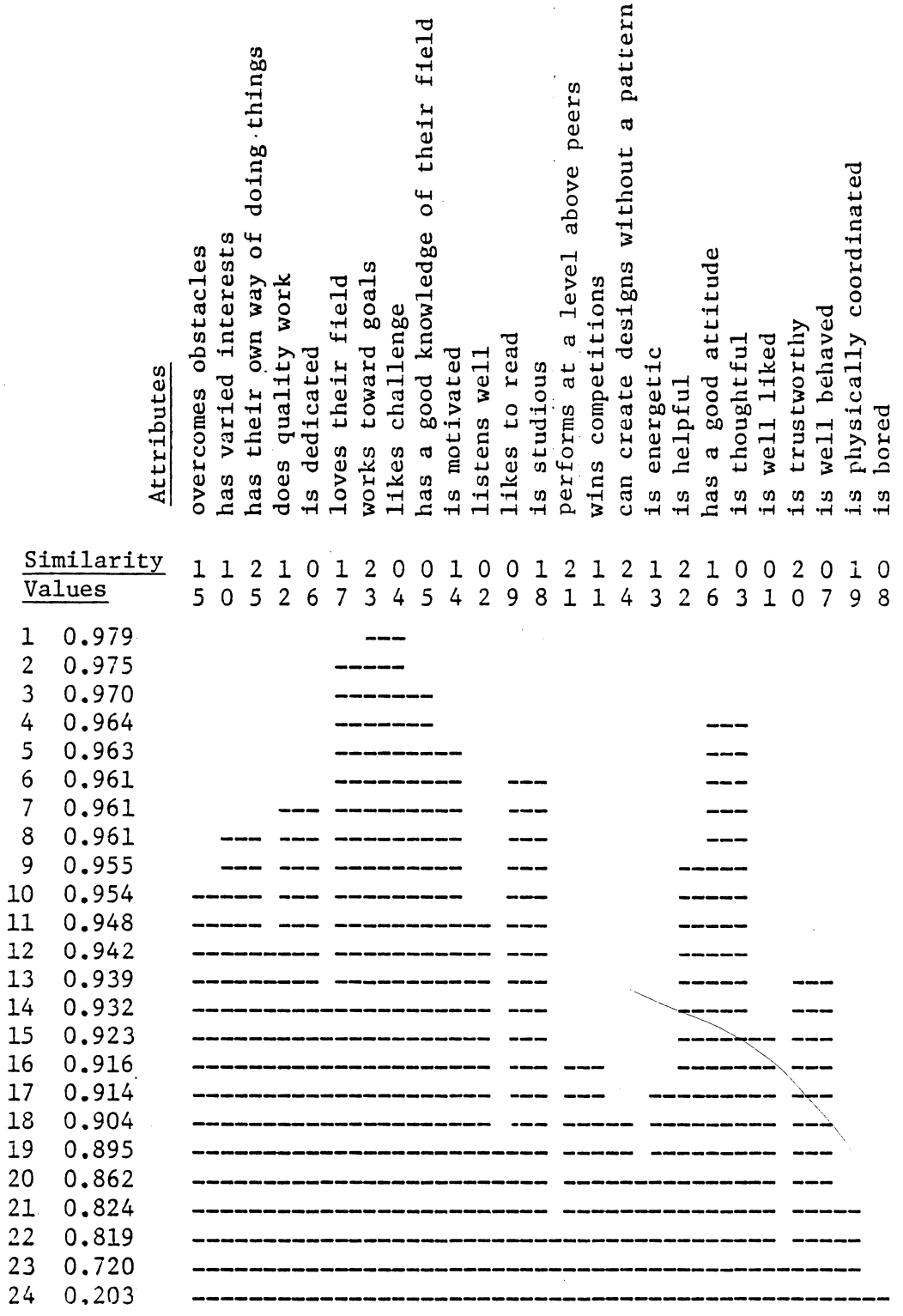


Figure 16. Hierarchical clustering of attributes by gifts/talents.

Services. Services provided by schools to develop children's gifts and talents are also perceived as being similar. All of the items on the services clustering scheme (Figure 11) clustered above .864. "Opportunities to share time with other gifted/talented students" and "encourage interests" were the first to cluster, having a similarity value of .983. That vocational programs clustered at .864, a high similarity value, indicates that for the population sampled, vocational programs are also perceived as being viable services. Why these items are perceived as being similar remains open to speculation, but again, the similarity may be related to the fact that many of the respondents are not familiar with educational services or that the items themselves all fall within a fairly "tight" domain.

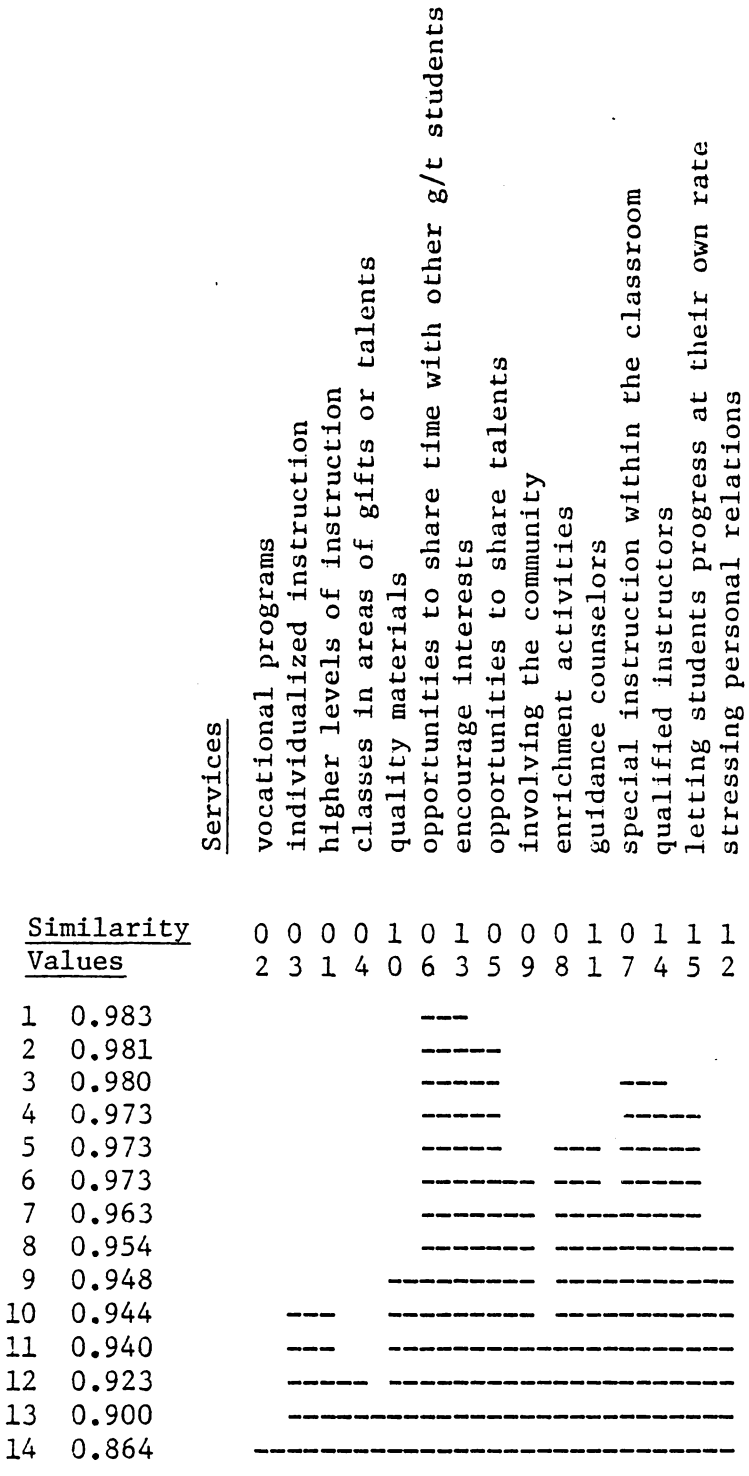


Figure 11. Hierarchical clustering of services by gifts/talents.

Summary of the Results of the Beliefs Elicitation

The hierarchical clustering of the items in the three domains revealed that the respondents perceive the items within each of the three sets as being closely related. This close similarity is an indication that the items share certain common features. The clustering procedure reduced the number of gifts and talents from 23 to 18, the attributes from 25 to 20, and the services from 15 to 13.

Rank Ordering Analysis

Although the vast majority of items on each of the four clustering schemes were perceived as being similar, decisions about which items would be combined for their placement on the rank ordering instrument hinged on two criteria. The first criterion was that the items had to have similarity values above .95. This figure serves as a cut-off point above which one could be reasonably certain that the items are perceived as being similar. For the gifts/talents items, they had to meet this criterion on both the gifts/talents by attributes and gifts/talents by services clustering schemes. "Is good at carpentry" and "is mechanical" met this criterion, having similarity values of .982 and .959. "Is a good problem solver" and "learns on their own," on the other hand, had similarity values of .976 on the gifts/talents by attributes scheme and .880 on the gifts/talents by services scheme. The second criterion was that the combining of items had to make sense. On the services scheme, "enrichment activities" clustered with

"guidance counselors" at the .973 level, but the common factor between the items is not obvious, and thus a logical reason for combining the two items is not readily apparent. The rank ordering section of the methodology chapter explains which items met these criteria. Appendix L shows the items as they appeared on the instrument.

The analysis of the beliefs elicitation data showed that the items from the three domains are similar, and that some of the items could be combined. The analysis of the rank ordering data helped determine the relative "fit" of the items in the three domains. In order to ascertain the fit of the items, means were calculated for each rank-ordered item. The frequencies procedure from the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, & Steinbrenner, 1975) was used for the calculation. Items were rearranged into rank order according to their means; the lower the mean, the higher the ranking. Appendix Q shows these rearranged lists of items. An ANOVA program developed by Wolfle (1982) was used to test for significant differences among the means. The results of these tests are shown in Appendix R.

Rank Ordering Results

At the inception of the study, it was expected that the fundamental research questions would be answered in the rank ordering. In fact, it was in the beliefs elicitation that the questions were answered. The reliability coefficients from the rank ordering, in particular, support these answers. The research

questions were, (1) "What is giftedness as defined by the residents of Appalachia? (2) According to the residents of Appalachia, how can gifted people be identified? and (3) What kinds of educational experiences do the residents of Appalachia deem most appropriate for gifted children? The answers to the questions turned out to be sets of closely related items; the rank ordering of items confirmed this finding.

Although the items are closely related, the results of the ANOVA's (Appendix R) showed that there are significant differences among the means. The means shown on Figure 12 indicate that the top ranked item, "to get along well with people" has a mean of 3.73, while the bottom ranked item, "to dance well," has a mean of 16.35. The difference between these means is indeed significant. The ANOVA's did not indicate which specific items are significantly different from other items. A perusal of the way in which the items appear to fall into four groups leads to the speculation that there are differences among the groups.

The low mean for item 1 puts it in a group by itself. The second group is composed of items ranked 2 through 8, where there is a breaking point between means of 7.08 and 8.15. The third group is made up of items ranked 9 through 14. There is another break after the mean of item 14. The final group comprises items 15 through 18. It seems clear that the respondents do make distinctions among the ranking of items between groups, especially from the top group to the bottom group. The low reliability

coefficients indicate, however, that there is little agreement of the relative ranking of items within the groups.

Means for the rank ordering of attributes and services also indicate that the respondents do make some discrimination among the items, especially from the top to the bottom. For example, Figure 13 shows that a mean of 5.59 for item 1 is significantly different from the mean of 15.55 for item 16. Figure 14 shows that item 1, "qualified teachers" is in a class by itself. The exact nature and extent of discrimination among these items is as yet unclear.

As mentioned in Chapter Two, the reliability coefficients for the rank ordering were low. The Kendall's coefficient of concordance calculated for each of the three domains resulted in coefficients of .26 for the gifts/talents list, .32 for the attributes list, and .03 for the services list. Each of these coefficients was significant at the .0001 level. Kendall's W is an indication of the degree to which subjects agree on the relative rank ordering of items (Siegel, 1956).

Rank		Mean
1	To get along well with people	3.73
2	To express themselves well	5.97
3	To be good at solving problems	6.39
4	To do a number of things well	6.53
5	To be creative	6.70
6	To make it on their own	6.75
7	To get and keep a good job	7.07
8	To have a good memory	7.08
9	To be intelligent	8.15
10	To be a good student	9.37
11	To be good at English	10.36
12	To be good at teaching	10.46
13	To be good at math or science	11.79
14	To be artistic	11.84
15	To be good at carpentry or mechanics	13.36
16	To be musical	13.55
17	To be athletic	15.13
18	To dance well	16.35

Figure 12. Rank order of gifts/talents.

Rank		Mean
1	Is dedicated	5.59
2	Works towards goals	6.34
3	Overcomes obstacles	6.79
4	Does quality work	7.42
5	Listens well	7.82
6	Is helpful	8.06
7	Knows and loves their field	8.12
8	Has lots of different interests	8.99
9	Is well liked	9.03
10	Performs at a level above that of peers	11.27
11	Can create designs without a pattern	12.14
12	Has their own way of doing things	12.57
13	Likes to read	12.70
14	Is full of energy	13.05
15	Studies a lot	14.36
16	Wins competitions or contests	15.55

Figure 13. Rank order of attributes.

Rank		Mean
1	Qualified teachers	4.84
2	Higher levels of instruction	6.13
3	Classes in areas of gifts/talents	6.22
4	Individualized instruction	6.35
5	Stressing personal relations	6.72
6	Letting students progress at own rate	6.77
7	Enrichment activities	6.98
8	Vocational programs or courses	7.05
9	Special instruction in regular classroom	7.51
10	Opportunities to spend time with other g/t	7.55
11	Quality materials or equipment	7.75
12	Guidance counselors	8.09
13	Involving people who live in the community	9.08

Figure 14. Rank order of services.

A Site Specific Definition of Giftedness

For the residents of Wise County, giftedness is a straight-forward yet complex concept. It is straight-forward in that a person is said to be gifted if he/she excels in an area; typically, a person excels in more than one area. Figure 12 shows that there are at least 18 of these areas.

The concept of giftedness is complex in that the various gifts and talents reflect a number of notions of what giftedness is: intelligence, creativity, success, motivation, physical dexterity, social adeptness, work, aesthetic sense, multi-talent, and management of information. Some of these notions are reflected in more than one item. To add to the complexity is the finding that the various gifts and talents are closely related; thus, the term "gifted" is used in a global sense. People do make discriminations among the gifts and talents, but the exact nature and extent of those discriminations is unclear.

Site Specific Perceptions of Attributes of Gifted People

In the rank ordering phase of the H.E.M., there were 20 attributes of gifted and talented people. When summarizing respondents' perceptions of means of identifying the gifted, however, four items were eliminated from the list of attributes because they clustered with the other items at a relatively low similarity value. "Is trustworthy," "is well behaved," and "is physically coordinated" clustered with the other items with a value of .720. "Is bored" had a similarity value of .203. In general,

low similarity values do not necessarily indicate that an item or group of items would be eliminated from a domain. In this case, however, the high similarity values of all of the other items, in conjunction with the low reliability coefficients of the rank ordering, suggest that those items with lower values might not be valid items for identifying gifted children. Since it would be more dangerous to use inappropriate items to identify gifted children than it would be to eliminate items that might be invalid, the items were left off the final list of attributes. In the final analysis, then, there were 16 items that the respondents perceive as being attributes of gifted people. For a listing of these items, see Figure 13.

Site Specific Perceptions of Services for Gifted and Talented Children

There are 13 items in the services domain that are perceived as being appropriate educational services for gifted children. These items are listed in Figure 14. Among these items, "qualified teachers" ranked significantly higher than the other items.

Summary

For the respondents of this study, giftedness is a global concept comprising 18 elements. These elements, or gifts/talents, are perceived as being closely related to each other in that they share a number of common features. The analysis also resulted in the elicitation of 16 elements that the respondents indicated are attributes of gifted people. Finally, the analysis showed that the

respondents see 13 kinds of educational services as being appropriate for gifted children. Some of these gifts/talents, attributes, and services are similar to their conventional counterparts; others are not. The final chapter discusses these similarities and differences.

Chapter IV

CONCLUSIONS

Introduction

The main purpose of this study has been to discover whether there are differences between local perceptions of giftedness and definitions suggested by researchers and policy makers, and to describe the nature of those differences, should they exist. A second purpose of the study has been to describe the concomitant implications that such differences would have on the identification of, and provision of services to, gifted children. In the preceding chapter, a site specific definition of giftedness was delineated, along with local perceptions of attributes of gifted people and of appropriate educational services for gifted children. In the comparison section of this chapter, these site specific elements are compared and contrasted with their conventional counterparts. Conclusions are drawn, implications are discussed, and recommendations for further investigation are offered. Finally, the major findings are put in perspective.

The Comparison

Definitions. For the residents of Wise County, Virginia, giftedness can be defined in terms of 18 gifts or talents that people may have, i.e., people who have one or more of these gifts or talents are considered to be gifted or talented. The site specific definition suggests that giftedness is a global concept comprising at least 18 closely related elements. These elements

have a number of factors in common, but the exact relationship among the elements and factors is not clear. Conventional definitions, on the other hand, often comprise broad areas of gifts or talents (cf. Marland, 1972; P.L. 95-561, 1978; Renzulli, 1978).

For purposes of comparing the site specific definition with a conventional counterpart, the federal definitions (Marland, 1972; P.L. 95-561, 1978) were chosen to represent the conventional definitions. These definitions, which are very similar to each other, were selected as a basis of comparison because they are the ones most widely adopted or adapted by state and local school systems (Zettel, 1979). The 1978 version defines gifted and talented children as:

> Children and whenever applicable, youth, who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capability in areas such as intellectual, creative, specific academic, or leadership ability, or in the performing and visual arts, and who by reason thereof, require services or activities not ordinarily provided by the school.

The heart of this definition is the designation of five broad areas of giftedness: intellectual ability, creative ability, specific academic aptitude, leadership ability, and ability in performing and visual arts. Recall that the primary difference between the 1972 version and the 1978 version is that a sixth area, psychomotor ability, was listed in the Marland definition but was deleted from the later version. Since psychomotor ability is pertinent to this study, it is included in the list of broad areas

of gifts and talents that represent the federal definition. Figure 15 shows these six areas along with the ten areas of the site specific definition.

In several instances, the types of gifts and talents found in one definition are also found in the other definition; in other instances there are no corollaries. For example, both definitions have categories related to intelligence and creativity. Specific academic aptitude is very similar to managing information. The primary difference between these two categories is that the latter includes the ability to teach whereas the former does not. Visual and performing arts is similar to aesthetics. Artistic and musical ability, as described by the respondents encompass aesthetic sensitivity as much as actual performance or products.

Psychomotor ability is similar to physical dexterity. In the traditional sense, psychomotor ability refers to athletic ability, mechanical ability, and manual dexterity (National School Public Relations Association, 1979). For the respondents, mechanical ability refers to the ability to work on machinery and is clearly vocational in nature. The ability to dance well incorporates notions of both aesthetics and physical dexterity.

Federal Definition	Site Specific Definition
	Social to get along well with people
Leadership	
	Social-Intellectual to express themselves well
Intellectual	Intellectual to be good at solving problems to have a good memory to be intelligent
	Multi-talent to do a number of things well
Creative	Creative to be creative
	Success to make it on their own
	Work/Vocation to get and keep a good job
Specific Academic Aptitude	Managing Information to be a good student to be good at English to be good at teaching to be good at math or science
Visual and Performing Arts	Aesthetic Sense to be artistic to be musical
Psychomotor*	Physical Dexterity to be athletic to dance well

*This area was included in the 1972 federal definition but was deleted from the 1978 version.

Figure 15. A comparison of the areas of gifts and talents found in the federal definition with the particular gifts and talents found in the site specific definition.

The single area of the federal definition that has no direct counterpart in the site specific definition is leadership ability. Leadership ability would appear to fit reasonably well within the broad scope of social giftedness. Although social giftedness is seldom discussed in current literature, it was defined by Jarecky (1975) as "an exceptional capacity for mature productive relationships with others - both peers and adults" (p. 256). For current researchers and policy makers, this ability is translated as meaning leadership ability (P.L. 95-561). While people who are good leaders may be able to get along well with others, people who get along well with others may or may not demonstrate leadership ability in the traditional sense. For the residents of Wise County, the ability to get along well with people refers more to people who "love other people," and who are accommodating, congenial, "good" people. These people may or may not demonstrate leadership ability in the sense in which it is used by educators.

Another element of the site specific definition that is similar to, yet different from its conventional counterpart is the ability "to express themselves well." On the surface, it would appear that this element would be categorized in either the intellectual or specific academic areas. An examination of the respondents' perceptions of this ability precludes such a categorization, however. In the conventional sense, self expression is often related to advanced vocabularies, correct grammar, and standard pronunciation. For the respondents, this

same type of giftedness refers to the ability to relay information in an efficient, fluid style. Quite often, this ability is related to colorfulness or vividness of speech, without respect to the rules of standard English. It refers to the ability to tell stories or to deliver sermons. In a sense, it is as much a social ability as it is an intellectual ability.

Within the site specific definition are certain notions of giftedness that are discussed in research literature but are not necessarily incorporated in definitions. One such notion has to do with success. For the residents of Wise County, the ability to "make it on their own," is perceived as a type of giftedness. For researchers, the relationship between giftedness and life success has been approached from a causal perspective. For example, the follow-up reports of the Terman studies have concentrated on the life success of persons with high I.Q.'s. These reports indicate that high intelligence is no guarantee of life success, and that of the 1528 subjects involved in the original study, none achieved the status of world renown genius, i.e., there were no Picassos, Mozarts, or Einsteins in the group (Goleman, 1980).

A second notion of giftedness that is found in the site specific definition and is referred to in the literature is the idea of a person being multi-talented. The residents of Wise County perceive the ability "to do a number of things well" as a type of giftedness. Their multiple responses to the questions of the domain definition would also indicate they believe that people

who have one type of gift or talent are likely to have other types. Thus, being able to do a number of things well is both a gift unto itself and is also a way of referring to persons who are gifted in more than one area. In the research literature, the notion of multi-talent refers to children having a combination of abilities but does not refer to the ability to do a number of things well as a distinct type of giftedness (cf. Kaplan, 1975).

Finally, there is a category of giftedness included in the site specific definition that is not found in either the federal definition or in the research literature. This category is related to vocation or work. Having a good vocation, such as carpentry or mechanics is in turn related to economic security. The appearance of this category seems particularly appropriate for a working class population in times of high unemployment.

Attributes. In the original design of the study, the second research question was to be answered in part by the elicitation of a list of means of identifying gifted people. This list was to be compared with the results of a national survey of the most commonly used means of identification (Alvino et al., 1981). The analysis of the domain definition data put an end to this plan. An unexpected outcome of the data analysis was the absence of references to tests and rating scales, measures that are the most commonly used indicators of giftedness. Instead of a list of identifiers, the data revealed a list of attributes of gifted people. Since the Alvino et al. study was no longer an appropriate

basis of comparison, another basis was found - the Renzulli/Hartman Scale for Rating Behavioral Characteristics of Superior Students (1971). This scale is "designed to obtain teacher estimates of a student's characteristics in the areas of learning, motivation, creativity, and leadership" (p. 243). Most germane to this study is the point that the items on the Renzulli/Hartman scale were derived from tomes of research literature dealing with characteristics of gifted persons. Although the scale is limited to four areas of giftedness, it is one of the most frequently used measures of identification (Alvino et al., 1981); it is also one of the most comprehensive. For these reasons, the Renzulli/Hartman scale, more than any other single instrument, can serve as an adequate basis of comparison for the items elicited in this study. Figure 16 shows the similarities between some of the items on the scale and the list of attributes elicited from the respondents. Appendix S contains the complete rating scale.

Scale for Rating Behavioral Characteristics of Superior Students (Renzulli/Hartman)	Respondents' Perceptions of Attributes of Gifted People
Motivational Is persistent in seeking task completion	Motivational/Drive Is dedicated Works towards goals Overcomes obstacles Is full of energy Performs at a level above that of people his/her age Wins competitions or contests
	Vocational Does quality work Knows and loves their field
Leadership Can be counted on to do what he has promised and usually does it well Seems to be well liked by his classmates Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with	
	Social Listens well Is helpful Is well liked
Creative Is nonconforming; does not fear being different	Creative/Individualistic Creates designs without a pattern Has lots of different interests Has their own way of doing things
Learning Reads a great deal on his own	Intellectual Likes to read Studies a lot

Figure 16. Some items from the Renzulli/Hartman Scale compared with respondents' perceptions of attributes of gifted people.

There are two categories of items that appeared in the site specific data but do not have direct counterparts on the Renzulli/Hartman scale. The categories are related to vocational and social attributes. As there are no conventional gifts and talents related to vocation, it is not surprising that there are no conventional items of attributes related to vocation. The similarity found in the gifts/talents domain between leadership ability and social adeptness carries over into the attributes domain. Close scrutiny of the site specific items shows that "is helpful" and "is well liked" are similar to items in the conventional leadership category. On the other hand, "listening well" appears as a site specific attribute but not as a conventional item.

There are many items on the Renzulli/Hartman scale that are not on the list of attributes, such as "has unusually advanced vocabulary" or "often is assertive." The absence of these two particular items is not surprising when one considers the literature on cultural differences which claims that the culturally different do not necessarily demonstrate advanced vocabularies (cf. Bruch, 1975; Bailey & Harbin, 1980), and descriptions by the respondents who speak of Appalachian people as being "accommodating."

The final major difference between the items on the conventional rating scale and the items on the list of attributes is that two items on the rating scale of behavioral characteristics

are considered by the respondents to be gifts or talents rather than characteristics. "Tries to understand complicated material by separating it into parts; reasons things out for himself; sees logical and common sense answers" corresponds to the ability "to be good at solving problems." Recall that the "ability" to solve problems subsumes items dealing with analysis, logic, and reason. A second characteristic, "can express self well; has good verbal facility and is usually well understood" is almost identical to the ability "to express themselves well." During the categorization of items for the domain definition data analysis, the ultimate test for the placement of an item on the abilities list was whether a respondent had so designated it. This means that for these two items, at least, the residents of Wise County do not seem to make the same distinctions as researchers and policy makers as to what constitutes a gift/talent or a behavioral characteristic.

Services. The vast majority of the items on the services list fit into the conventional mold. Chapter one describes the four most standard elements of gifted programs: enrichment, acceleration, grouping, and guidance. The only item on the list of services elicited from the respondents that does not fall readily into at least one of these categories is "vocational programs or courses." (See Figure 17). Although this type of service does not fit into the conventional mold, it is consistent with the other domains of this study. There are abilities associated with vocations, e.g., "is good at carpentry or mechanics" or "gets and

keeps a good job;" there are also attributes associated with work and vocations, such as "knows and loves their field," "works towards goals," and "does quality work."

Enrichment
Classes in the areas of gifts or talents Enrichment activities Special instruction within the regular classroom
Acceleration
Higher levels of instruction Individualized instruction Letting students progress at their own rate
Grouping
Opportunities to spend time with other gifted/talented students
Guidance
Guidance counselors Stressing personal relations
Other
Vocational programs or courses Qualified teachers Quality materials or equipment Involving people who live in the community

Figure 17. Services categorized according to conventional types of services.

Items that could be considered types of enrichment include "classes in the areas of gifts or talents," "enrichment activities," and "special instruction within the regular classroom." Items that are categorized as types of acceleration include "higher levels of instruction," "individualized instruction," and "letting students progress at their own rate." The single item related to grouping is "opportunities to spend time with other gifted/talented." "Guidance counselors" and "stressing personal relations" are services related to guidance. Three items, "qualified teachers," "quality materials or equipment," and "involving people who live in the community" are desirable ingredients of any educational program and could therefore be categorized in any one of the four areas.

Summary

Definitions. In essence, both the site specific and federal definitions of giftedness are umbrella terms. Under the site specific umbrella are 18 elements that respondents have designated as gifts or talents. Under the federal umbrella are five or six broad areas of gifts and talents. Nine of the 18 gifts and talents delineated in the site specific definition correspond with areas of the combined federal definitions. The remaining items of the site specific definition have varying degrees of similarity to conventional notions of giftedness. At one end of the similarity continuum are elements of the site specific definition that correspond with an area of giftedness listed in the 1972 federal

definition but not the 1978 definition. The elements in this case are "to be athletic" and "to be good at carpentry or mechanics;" the corresponding broad area is psychomotor ability. Next on the continuum are elements that are of the same general nature as their federal counterparts but which maintain a character that is specific to the residents of Wise County. "To get along well with people" is similar to, yet different from, leadership ability. "To express themselves well" could be categorized under a number of areas of the federal definition, were it not for the differences in perceptions as to what constitutes self expression.

There are two elements of the site specific definition that have no federal counterpart but are discussed in the research literature pertaining to life success and eminence. Another element, "can do a number of things well," is related to the literature on people who are multi-talented. Finally, there are two elements that are neither incorporated in the federal definitions nor discussed in the research literature: "to be good at teaching" and "to get and keep a good job."

Although there are some differences between the elements of the site specific and federal definitions, the major differences lie in the ways the elements fit together. The elements of the site specific definition are perceived as being very similar to each other, which is an indication that the respondents do not make clear discriminations among the elements in terms of their being specific kinds of gifts or talents. Nor do the respondents make

clear discriminations between gifts/talents and attributes of gifted people. The site specific definition is, therefore, a general concept.

On the other hand, the federal definition and most other standard definitions are usually made up of categories of abilities that are distinct from each other. To select children for gifted programs, educators use tests or checklists aimed at measuring specific abilities. Unlike the respondents, most educators make distinctions between the various areas of giftedness, and they make discriminations among these areas and attributes of gifted people.

Attributes. This study was designed to ascertain respondents' perceptions of means of identifying gifted people. An underlying assumption of this design has been that a variety of means would be elicited, some of which would be of a testing/measurement nature. This was a false assumption. Rather than a list of identification procedures, the data analysis resulted in a list of respondents' perceptions of attributes of gifted people. These unexpected results called for a change in design. Instead of comparing the items with the results of a national survey of identification practices, as was originally planned, the attributes were compared with items of the same genre, i.e., items on a conventional rating scale of characteristics and behaviors of gifted people. This comparison revealed that the social and vocational items have no direct corollary on the conventional instrument.

An unexpected outcome of the comparison of the attributes with items on the conventional instrument was that two of the items listed by the instrument developers as being behavioral characteristics are considered by the respondents to be gifts or talents. This difference would indicate that, at least in certain areas, it is difficult to ascertain what constitutes a gift/talent and what constitutes an attribute of a gifted person. The difficulty in assigning items to domains during the content analysis is a manifestation of that difficulty.

Services. Of the 13 types of services elicited from the respondents, all but one fit into at least one of the conventional categories of services. These categories are enrichment, acceleration, grouping, and guidance. Three items fit into more than one of the standard services. The outlier is "vocational programs or courses." This item is consistent with the data from the other domains in that there are vocational aspects of both the gifts/talents domain and the attributes domain, but it is inconsistent with conventional types of services for gifted children.

Implications

If a definition of giftedness is a judgment overlaid with values (Albert, 1975; Gallagher, 1975), then an implication from this study is that the policy makers and researchers who develop conventional definitions share some common values with the residents of Wise County. A second implication is that the

residents of Wise County have some values that are particularly salient to that population. History has shown that the federal definition is based on the nation's perceived need for scientists, mathematicians, linguists, statesmen, and other leaders. In that light, it is no wonder that gifted programs have traditionally been oriented towards the development of intellectual ability, academic aptitude, and to some extent leadership ability. Quite often this orientation has been at the expense of creative ability and ability in the performing and visual arts (Sisk, 1980). The overlap between the conventional and site specific definitions indicates that the residents of Wise County perceive all but one of these abilities as being types of giftedness, the exception being leadership ability. The comparison of the federal and site specific definitions also shows that there are certain aspects of the site specific definition that are not included in the federal or other conventional definitions.

The results of the beliefs elicitation show that the respondents perceive the various types of gifts and talents as being closely related. Data from the domain definition show that the perceived similarity among the gifts and talents might be related to certain factors that the gifts/talents have in common. Although the exact relationship among these factors is unclear, they serve, nonetheless, as a reflection of some of the values of the residents of Wise County: intelligence, creativity, work, success, motivation, aesthetic sense, social adeptness,

multi-talent, and physical dexterity. The value placed on work seems particularly salient to a population with a history of economic uncertainty. The value placed on motivation, success, and social awareness/adeptness reflects what Coles (1971b) refers to as Appalachian people's curious mixture of self-reliance and interdependence.

The results of the rank ordering indicate that, although the items in the three domains are very similar, the respondents do make discriminations among them. On the list of gifts and talents, the respondents indicated that "to get along well with people," and "to express themselves well," for example, are more closely associated with the meaning of giftedness than items such as "to be musical," "to be athletic," or "to dance well." On the list of attributes, "is dedicated," "works towards goals," and "overcomes obstacles" better describe a gifted person than do the items "studies a lot" and "wins competitions or contests." On the list of services, "qualified teachers" was by far the most appropriate service for gifted children; "involving people who live in the community" was the least appropriate. The discrimination among these items can help policy makers determine which items should influence program decisions.

Local policy makers are the ones who ultimately decide which values are accommodated in a definition and are subsequently operationalized in a program. Since there is a fairly high degree of overlap between the federal definition and the site specific

definition, it is reasonable to expect that the local policy makers would try to incorporate the common elements into their definition. A problem might arise with the elements that are not consistent with the federal or state definition. For example, should local policy makers incorporate athletic ability or mechanical ability into their gifted program even though the current federal definition and the state definition exclude psychomotor ability as a type of giftedness? Should they place as much emphasis on personal relations, self expression, and teaching ability (in children) as they do on intellectual ability or academic aptitude?

The answers to these questions lie in the importance placed on program acceptability. Recall that there are two purposes of the federal definition. The primary purpose is the development of a cadre of intellectuals and leaders who will contribute to the strength of the nation. A second purpose of the federal definition is to serve as a means for distributing federal funds to states and localities. Recall also that the basic premise behind the development of a site specific definition is that such a definition will serve as the basis of a program that will be perceived by the constituency as being appropriate and worthwhile. In the end, local policy makers who want to maximize the acceptability of the program must develop definitions that are both compatible with the federal guidelines and responsive to the local beliefs and attitudes.

A second problem faced by local policy makers is how to interpret residents' perceptions of means of identifying gifted people. Since tests and rating scales did not emerge as salient items for Wise County residents, these conventional means may be inappropriate for this population. Literature on identification of the gifted contains studies that have been aimed at developing instruments for specific populations (cf. Chambers, Barron, & Sprecher, 1980; Gay, 1978). These instruments consist of traits of culturally different gifted children. A possible solution to the identification problem for Wise County residents might be in the development of an instrument based on the list of attributes that are specific to that population. The viability of this solution hinges on several factors. The primary factor is that local policy makers must decide on the relevance of local attitudes and perceptions to the acceptability of a program. If these attitudes are relevant, then policy makers must discover why tests and instruments were not mentioned frequently enough to be included in the data. The data suggest that respondents simply do not associate tests with identification of the gifted. Conversations during the interviews, however, raised the possibility that there is a negative attitude towards conventional tests and measurement devices. Literature on Appalachia (cf. Cottle, 1972) suggests that there is a negative attitude towards tests in general. If negative attitudes are in fact limited to conventional tests and measures, the development of an instrument based on the list of attributes

might be an appropriate solution to the identification problem.

A second possible solution to the problem of identification might lie in the limited use or the total avoidance of tests. Passow and Tannenbaum (1978) offer an alternative to these measures. They suggest that various types of enrichment can facilitate self identification, i.e., identification by performance and product. For example, a program for poetry could allow children with creative poetic expression to identify themselves. Since the ability to be good at carpentry or mechanics is an ability valued by the respondents of this study, and since vocational courses or programs are deemed viable services for children with these abilitites, local educators could provide educational experiences in these fields which would allow young children with these abilities to identify themselves. This approach is a reversal of the standard diagnostic > prescriptive approach where students are diagnosed as being gifted and then have certain types of services prescribed for them. In the Passow and Tannenbaum approach, enrichment is the vehicle for diagnosis.

To some extent, the selection of services to be included in a program presents a smaller problem than the selection of a definition or identification criteria. The types of services that are selected depend to a great extent on the types of elements that are included in the definition. Since the various types of services are perceived by the respondents as being similar, and since they seem to be valued equally, decisions about which

services are provided should be based on the extent to which the services are viable means of developing the selected gifts or talents.

Recommendations for Further Research

The development of a site specific definition of giftedness that is somewhat different from conventional definitions leads to the speculation that other populations could offer their own specific definitions. If a definition is value dependent, then it seems reasonable to expect that populations with differing value systems would have different perceptions of giftedness. Literature on the culturally different lends substantiation to this speculation. The results of this study show a strong work ethic among the local population and therefore suggest that different economic groups might have different perceptions of giftedness. These speculations should be tested. If there were many site specific (or culturally specific or economic group specific) definitions that varied substantially from the federal definition, the variation could have an impact of the entire field of gifted education.

The study of people's perceptions of means of identifying gifted people has raised several questions. The primary question asks why tests and other measurement devices were not mentioned frequently enough to be included in the data that emerged from the domain definition. Was the omission a function of the methodology? Do Appalachian people have negative attitudes towards testing, as

the literature suggests (cf. Cottle, 1972)? Or was the omission an artifact? A study of Appalachian people's attitudes towards testing could provide valuable information for educators who are faced with the problem of assessing students' abilities.

Another set of questions centers around the concept of intelligence. As the data emerged and were analyzed, it was difficult to ascertain which types of abilities that are traditionally associated with intelligence are so perceived by the respondents. Studies of various cultural groups' perceptions of intelligence suggest that different groups perceive the construct in varying ways (cf. Cole & Scribner, 1974; Gladwin, 1970). A study of Appalachian people's perceptions of intelligence may add to our understanding of the construct.

In general, the Heuristic Elicitation Methodology has proved to be an adequate but less than perfect vehicle for studying people's attitudes and perceptions of giftedness. The methodology problems encountered in this study are perhaps a function of the complicated nature of giftedness rather than a weakness in the H.E.M. If this methodology were to be applied to other problems related to definitions of giftedness, the domain definition should start with a larger body of questions so that distinctions between what is "gifted" and what is "not gifted" would be more clear. For example, in order to determine a range of appropriate services, researchers should also ask "What services do you think should not be provided to gifted children?" To further enhance discrimination

among items (and to improve reliability), highly discrepant items such as "is bored" should not be eliminated from the beliefs elicitation and the rank ordering. A final suggestion is that the lists of items in the rank ordering contain fewer items than the fairly lengthy lists used in this study. In some studies using the H.E.M. the ranking was done via personal interview. In this study, personal interviews would have been preferable and might have improved the reliability coefficients, but the large sample size and fiscal restraints precluded such procedures. Fortunately, the H.E.M. is flexible enough to be adapted to fit various research problems and situations.

The Study in Perspective

Historically, social scientists have defined giftedness in terms of specific numbers and types of abilities or performance areas. Over the past 50 years, researchers and educators have suggested that definitions be expanded. Despite these suggestions, the vast majority of American schools that provide programs for gifted children continue to focus on narrowly defined areas of ability. Programs for gifted children are, in general, limited to the development of intellectual ability, academic aptitude, and to some extent, creativity (Sisk, 1980). In order to place children in these programs, educators use tests and checklists that are aimed at distinguishing children who have exceptional ability from those who do not. Educational services for the gifted are also designed to separate the "haves" from the "have nots" (Feldman,

1979) in that gifted children receive services that are qualitatively different from those provided to other students.

This study has shown that, for a specific population, giftedness is a very broad concept; it is not limited to specific categories. Giftedness is certainly not limited to intellectual ability, academic aptitude, or creativity. The study has also shown that, as Bernal (1974) and Gallagher (1975) have suggested, definitions of giftedness are indeed influenced by sociocultural and economic factors. The results of the study reveal that a person is perceived to be gifted if he or she excels in an area. For the residents of Wise County, those areas seem to center around several notions such as intelligence, creativity, success, motivation, physical dexterity, social awareness or adeptness, work, aesthetic sensitivity, multi-talent, and management of information. In a gifted person, these factors do not exist in isolation.

A second major finding of this study is that people who are not trained as educators do not make the same distinctions between gifts/talents and attributes of gifted people as do educators. These items seem to meld into a global concept. This finding suggests that identifying gifted children by checklists of behavioral factors or personological characteristics is something that is learned in academic circles. The respondents in this study did not indicate that tests or checklists are viable means of identifying gifted children. Further, the list of educational

services that are deemed appropriate for gifted children contains items that are incorporated in most regular school programs. Few of the items are considered to be limited to gifted children; in fact, most of the respondents said that they felt that the services are appropriate for all children.

The site specific definition of giftedness is, in essence, a common sense definition. The final conclusion of the study is also a matter of common sense. Definitions serve multiple purposes. If educators want to provide programs for gifted children, and if they want those programs to be acceptable to the local constituency as well as to governmental agencies, they must accommodate aspects of both conventional and site specific definitions.

"When I use a word," Humpty Dumpty said, "it means just what I choose it to mean - neither more nor less."

"The question is," said Alice, "whether you can make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master, that's all."

Lewis Carroll
Through the Looking Glass
and What Alice Saw There

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APPENDIX A

Examples of High, Middle, and Low SES Groups According to Occupations

Examples of High, Middle, and Low SES Groups
According to Occupations

High SES

judge
lawyer
dentist
mining engineer
physician
college teacher
geologist
veterinarian
elementary school teacher
secondary school teacher
school administrator
computer programmer
librarian
secretary
stenographer

Middle SES

mail carrier
forester or conservationist
registered nurse
writers, artists
receptionist
cashier
counter clerk, except fooe
file clerk
electrician
foreman

Low SES

craftsmen and kindred workers
heavy equipment mechanic
precision machine operative
carpenter
auto mechanic
mine operative, not specified
truck driver
hair dresser
garage worker, gas station attendant
janitor or sexton
farmer
housekeeper, private
childcare, private house

APPENDIX B

Description of Interviewees for the Domain Definition

Description of the Sample for the Domain Definition

	High SES	Middle SES	Low SES
exposure to schools	-wife of vice pres. of coal company -active in P.T.A. -1 child in school interview code 13 1	-electrician -volunteers at school -1 child in school interview code 14 2	-heavy equipment mechanic -P.T.A. president -2 children in school interview code 4 3
	-secretary -no involvement -2 children in school interview code 10 4	-mail carrier -no involvement -2 children in school interview code 5 5	-miner -no involvement -3 children in school interview code 9 6
low exposure to schools	-wife of dentist -writes school newsletter -no children in school interview code 15 7	-substitute teacher -school/community committees -no children in school interview code 7 8	-janitor -builds sets, props for programs -no children in school interview code 11 9
	-owner of several stores -no involvement -no children in schools interview code 6 10	-bank cashier -no involvement -no children in schools interview code 12 11	-coal loader -no involvement -no children in schools interview code 8 12

APPENDIX C

Interview Schedule for the Domain Definition

Interview Code_____

(X)

1. Think of some people in this area who you think are gifted or talented. What are the first names of these people?

1._____

2._____

3._____

4._____

5._____

6._____

(Y)

2. What particular things about (X) make you think he/she is gifted or talented?

3_1. What particular things does (X) do to make you think he/she is (Y)?
Alternate: How can you tell (X) is (Y)?

3_2. What makes it possible to (Y)?

4. What can schools do for students who are/have (A)/(I)?

APPENDIX D

Informed Consent Letters

Informed Consent for the Domain Definition

Before we begin the interview, let me first thank you for agreeing to participate in this study. In case you have been wondering why you have been asked to be interviewed, it is because certain people in Wise County think you are the type of person who will be able to provide valuable information for the study.

The purpose of the study is to find out what the residents of Wise County think the words "gifted" and "talented" mean. I will be asking you five basic questions. In answering the questions, it is very important that you tell me your own opinion, which may or not be the same as other people's opinions.

The questions will be asked in such a way that the answers you give to one question will become part of the next question. With this kind of questioning, one or two questions may not make much sense. If this happens, don't worry; we will either reword the question or go on to the next one.

You may notice that the sheets with the questions on them have a space called Interview Code. Instead of putting your name on the interview, I will put a code. In this way, all of the information you provide will be confidential. The only place your name will appear is on this piece of paper which shows that by signing it, you agree to be interviewed, and that you understand the purpose of the study.

_____

Informed Consent for Beliefs Elicitation

Before we begin the interview, let me first thank you for agreeing to participate in this study. In case you have been wondering why you have been asked to be interviewed, it is because certain people in Wise County think that you are the type of person who will be able to provide valuable information for the study.

The purpose of the study is to find out what the residents of Wise County think the words "gifted" and "talented" mean. Several residents of the County have already been interviewed and have provided the information that you see on the chart before you. You will see that there are three sets of items on the chart; what we are going to do today is to see if you think these items are related to each other.

The questions will be asked in a way so that you need respond with a simple "yes" or "no". If you have any questions at any time, please don't hesitate to ask them.

You may notice that the sheet with the charts on them have a space called Interview Code. Instead of putting your name on the interview, I will put a code. In this way, all of the information you provide will be confidential. The only place your name will appear is on this piece of paper which shows that by signing it, you agree to be interviewed, and that you understand the purpose of the study.

APPENDIX E

Demographic Data Sheet

Interview Code____

Demographic Data

1. Sex Male_____ Female_____
2. Age_____
3. How many years of school have you completed?_____
4. Are you presently employed? yes_____ no_____
5. Waht is your occupation?_____
6. Do you have any children? yes_____ no_____

   How many children do you have?_____

   Do you have any children currently enrolled in the Wise County Schools?_____
7. What is your approximate family income?

   under $7500 _____

   $7501-$12,000 _____

   $12,000-$20,000 _____

   $20,000 or more _____

APPENDIX F

Results of the Domain Definition Data Analysis

Frequencies of Abilities

46 artistic
31 learns on their own
29 is a good student
27 expresses self well
26 learns easily
25 general musical ability
25 gets along well with people
23 is good at carpentry
22 has a good memory
19 instrumental music
19 gets and keeps a good job
18 makes it on their own - is successful
18 understands easily
17 is mechanical
16 is creative
16 can do a number of things well
16 is good at teaching
15 is intelligent
11 is good at math or science
11 is good at English
11 analyzes things
10 dances well
10 is logical
10 is athletic

Frequencies of Attributes

41 is dedicated
28 wins competitions
28 loves their field
26 is motivated
25 does quality work
21 is thoughtful
19 likes challenge
14 is coordinated
13 has a good knowledge of their field
11 is helpful
11 is energetic
11 is reserved
11 likes to read
10 works towards goals
10 is trustworthy
10 can create designs without a pattern
9 has varied interests
9 is well behaved
8 overcomes obstacles
8 performs at a level above that of people his/her age
8 has a good attitude
7 listens well
6 has their own way of doing things
6 is bored

Frequencies of Services

29 classes in areas of gifts and talents

26 special instruction within the regular classroom

20 quality materials

18 enrichment

18 vocational programs

16 individualized instruction

16 encourage interests

15 higher levels of instruction

15 qualified instructors

12 involving parents/community

11 career counseling

11 opportunities to share talents

9 letting students progress at their own rate

6 opportunities for gifted/talented to spend time with other gifted/talented

5 stressing personal relations

APPENDIX G

Gifts/Talents by Attributes Matrix

Gifts/Talents by Attributes Matrix

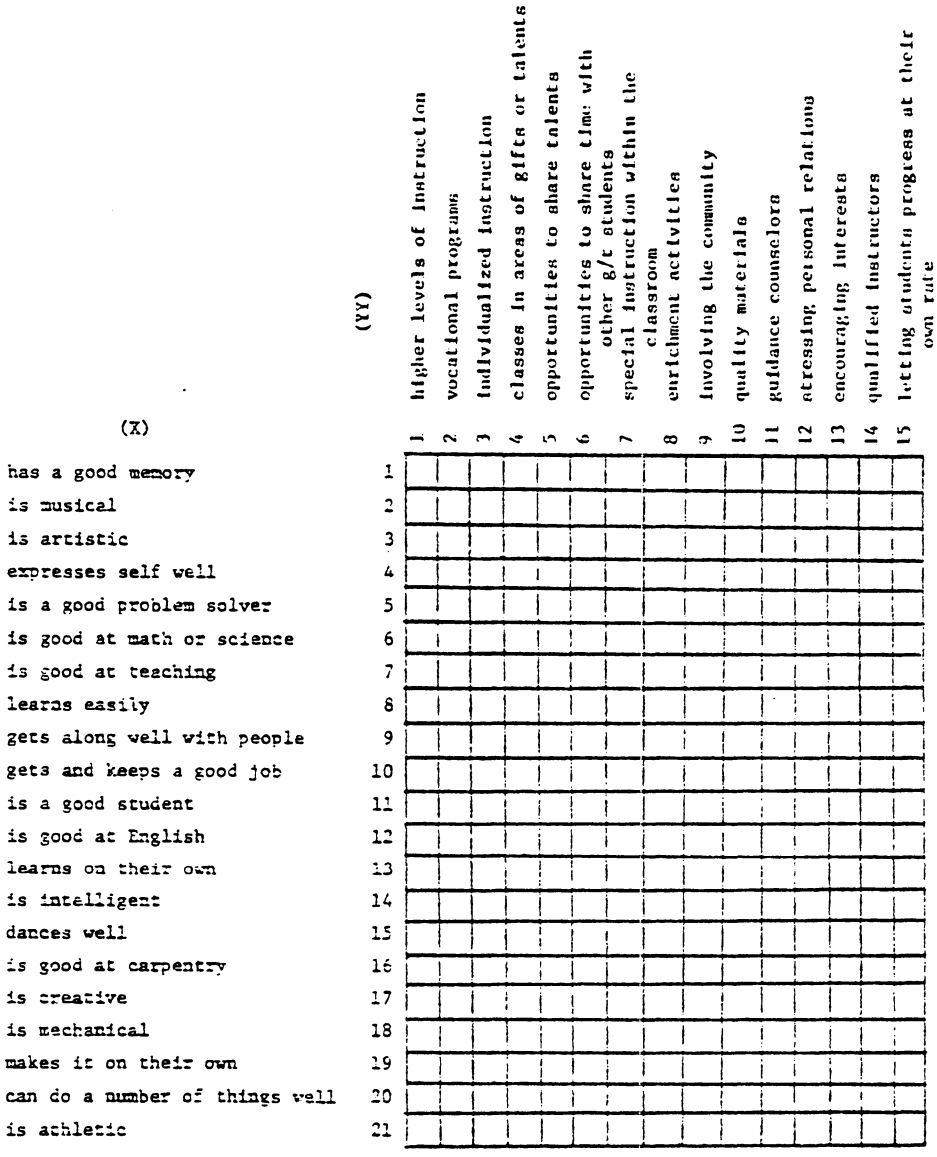
(Y)		(X) 1 has a good memory	2 is musical	3 is artistic	4 expresses self well	5 is a good problem solver	6 is good at math or science	7 is good at teaching	8 learns easily	9 gets along well with people	10 gets and keeps a good job	11 is a good student	12 is good at English	13 learns on their own	14 is intelligent	15 dances well	16 is good at carpentry	17 is creative	18 is mechanical	19 makes it on their own	20 can do a number of things well	21 is athletic
is well liked	1																					
listens well	2																					
is thoughtful	3																					
likes challenge	4																					
has a good knowledge of their field	5																					
is dedicated	6																					
is well behaved	7																					
is bored	8																					
likes to read	9																					
has varied interests	10																					
wins competitions	11																					
does quality work	12																					
is energetic	13																					
is motivated	14																					
overcomes obstacles	15																					
has a good attitude	16																					
loves their field	17																					
is studious	18																					
is physically coordinated	19																					
is trustworthy	20																					
performs at a level above that of people their age	21																					
is helpful	22																					
works towards goals	23																					
can create designs without a pattern	24																					
has their own way of doing things	25																					

Question: Would you say that a person who (X) (Y)? For example, Would you say that a person who has a good memory is well liked?

APPENDIX H

Gifts/Talents by Services Matrix

Gifts/Talents by Services Matrix



Question: Would you say that (YY) is good for a student who (X)? For example, Would you say that higher levels of instruction is good for a student who has a good memory?

APPENDIX I

Explanation of Terms on the Matirces

Explanation of Terms on the Matrices

Gifts/Talents:

creative - to be able to think of new ways of doing things

Attributes:

varied interests - lots of different interests

overcomes obstacles - if things get in their way, they can figure out a way to get around them

is motivated - has drive, wanting to work

is energetic - active, full of energy

Services:

higher levels of instruction - more advanced school work

classes in areas of gifts or talents - for example, classes in music, or art

enrichment activities - experiences kids don't normally get in school

involving the community - community members work with kids and share their talents - they work as volunteers or mentors

stressing personal relations - how to get along well with people

APPENDIX J

Aggregated Data for the Beliefs Elicitation Matrices

	is well liked	listens well	is thoughtful	likes challenge	has a good knowledge of their field	is dedicated	is well behaved	is bored	likes to read	has varied interests	wins competitions	does quality work	is energetic	is motivated	overcomes obstacles	has a good attitude	loves their field	is studious	is physically coordinated	is trustworthy	performs at a level above that of their peers	is helpful	works towards goals	can create designs without a pattern	has their own way of doing things	row total	row percent
has a good memory	22	34	23	32	33	26	12	7	34	30	27	24	20	33	22	22	27	28	10	18	24	22	31	27	23	611	4
is musical	24	32	19	31	34	31	8	7	23	29	31	30	26	35	23	20	34	29	24	13	18	23	34	31	30	639	4
is artistic	22	28	23	35	36	32	15	6	22	30	28	33	22	33	28	21	35	26	24	16	24	23	35	36	34	668	5
expresses self well	28	32	29	32	31	22	18	8	32	33	22	29	30	31	30	29	32	28	20	20	23	28	34	22	33	676	5
is a good problem solver	26	35	29	33	35	31	23	4	31	34	25	31	28	36	34	30	34	32	19	24	27	32	36	29	32	730	5
is good at math or science	14	32	22	35	35	31	14	6	34	27	28	33	25	31	32	22	34	35	17	14	25	26	33	29	28	662	5
is good at teaching	27	36	34	34	36	32	25	4	33	33	24	30	28	33	33	33	34	30	21	25	28	36	35	27	34	745	5
learns easily	24	32	26	35	33	26	19	6	28	35	29	32	27	32	26	29	30	28	17	21	27	30	31	29	32	684	5
gets along well with people	36	32	35	28	23	24	29	0	24	36	22	25	31	32	33	34	28	20	20	26	15	35	28	14	31	661	5
gets and keeps a good job	35	35	33	34	35	34	34	2	29	33	20	36	35	36	36	35	32	29	22	29	21	34	35	29	28	761	5
is a good student	28	36	32	35	36	35	28	4	36	36	28	33	30	34	34	35	36	35	22	23	26	28	36	25	31	762	5
is good at English	19	33	21	29	33	30	17	4	36	28	21	29	23	33	23	26	32	36	15	17	22	23	31	24	26	631	4
learns on their own	24	34	26	34	34	32	20	3	33	34	23	32	29	36	34	29	31	33	20	23	22	29	36	30	32	713	5
is intelligent	18	33	28	35	36	30	22	3	33	34	27	33	26	34	32	27	31	30	16	21	31	27	35	32	32	706	5
dances well	25	23	22	32	35	30	18	2	17	30	34	30	35	34	31	29	35	20	36	15	18	23	32	30	33	669	5
is good at carpentry	19	24	24	34	36	32	15	5	23	31	21	36	32	32	30	25	34	21	31	15	22	29	34	34	33	672	5
is creative	32	33	30	35	36	30	19	3	31	36	29	36	33	33	34	27	34	31	20	18	28	29	35	35	34	741	5
is mechanical	21	31	22	36	36	29	17	3	21	31	18	31	31	27	34	22	34	21	31	15	22	29	31	27	35	655	5
makes it on their own	28	35	27	34	35	34	24	2	32	34	24	33	35	36	35	27	34	29	24	20	26	26	35	26	34	729	5
can do a number of things well	29	35	27	34	32	29	22	1	32	36	29	32	34	36	36	31	35	31	26	18	25	31	35	32	34	742	5
is athletic	30	28	23	36	36	34	18	1	15	32	34	30	35	36	35	25	36	19	36	16	23	26	36	21	32	693	5
column total	531	673	555	703	716	634	417	81	599	682	544	658	615	703	655	578	692	591	472	407	497	589	708	589	661	14550	100
column percent	4	5	4	5	5	4	3	1	4	5	4	5	4	5	5	4	5	4	3	3	3	4	5	4	5	100	0

Observed Frequencies of Gifts/Talents by Attributes Matrix

	overcomes obstacles	has varied interests	has their own way of doing things	does quality work	is dedicated	loves their field	works towards goals	likes challenge	has a good knowledge of their field	is motivated	listens well	likes to read	is studious	performs at a level above that of people their age	wins competitions	can create designs without a pattern	is energetic	is helpful	has a good attitude	is thoughtful	is well liked	is trustworthy	is well behaved	is physically coordinated	is bored
gets along well with people	33	36	31	25	24	28	28	28	23	32	32	24	20	15	22	14	31	35	34	35	36	26	29	20	0
gets and keeps a good job	36	33	28	36	34	32	35	34	35	36	35	29	29	21	20	29	35	34	35	33	35	29	34	22	2
is a good student	34	36	31	33	35	35	36	35	36	34	36	36	35	26	28	25	30	28	35	32	28	23	28	22	4
is good at teaching	33	33	34	30	32	34	35	34	36	33	36	33	30	28	24	27	28	36	33	34	27	25	25	21	4
makes it on their own	35	34	34	33	34	34	35	34	35	36	35	32	29	26	24	26	35	26	27	27	28	20	24	24	2
can do a number of things well	36	36	34	32	29	35	35	34	32	36	35	32	31	25	29	32	34	31	31	27	29	18	22	26	1
is creative	34	36	34	36	30	34	35	35	36	33	33	31	31	28	29	35	33	29	27	35	32	18	19	20	3
is a good problem solver	34	34	32	31	31	34	36	33	35	36	35	31	32	27	25	29	28	32	30	29	26	24	23	19	4
learns on their own	34	34	32	32	32	31	36	34	34	36	34	33	33	22	23	30	29	29	29	26	24	23	20	20	3
is intelligent	32	34	32	33	30	31	35	35	36	34	33	33	30	31	27	32	26	27	27	28	18	21	22	16	3
learns easily	26	35	32	32	26	30	31	35	33	32	32	28	28	27	29	29	27	30	24	26	24	21	19	17	6
expresses self well	30	33	33	29	22	32	34	32	31	31	32	32	28	23	22	22	30	28	29	29	28	20	18	20	8
is mechanical	34	31	35	31	29	34	31	36	36	27	31	21	21	22	18	27	31	29	22	22	21	15	17	31	3
is good at carpentry	30	31	33	36	32	34	34	34	36	32	24	23	21	22	21	34	32	29	25	24	19	15	15	31	5
dances well	31	30	33	30	30	35	32	32	35	34	23	17	20	18	34	30	35	23	29	22	25	15	18	36	2
is athletic	35	32	32	30	34	36	36	36	36	36	28	15	19	23	34	21	35	26	25	23	30	16	18	36	1
is musical	23	29	30	30	31	34	34	31	34	35	32	23	29	18	31	31	26	23	20	19	24	13	8	24	7
is artistic	28	30	34	33	32	35	35	35	36	33	28	22	26	24	28	36	22	23	21	23	22	16	15	25	6
is good at math or science	32	27	28	33	31	34	33	35	35	31	32	34	35	25	28	29	25	26	22	22	14	14	14	17	6
is good at English	23	28	26	29	30	32	31	29	33	33	33	36	36	22	21	24	23	23	26	21	19	17	17	15	4
has a good memory	22	30	23	24	26	27	31	32	33	33	34	34	28	24	27	27	20	22	22	23	22	18	12	10	7

Rearranged Observed Frequencies of Gifts/Talents by Attributes Matrix

	higher levels of instruction	vocational programs	individualized instruction	classes in areas of gifts or talents	opportunities to share talents	opportunities to share time with other gifted/talented students	special instruction within the classroom	enrichment activities	involving the community	quality materials	guidance counselors	stressing personal relations	encouraging interests	qualified instructors	letting students progress at their own rate	row total	row percent
has a good memory	33																
is musical																	
is artistic																	
expresses self well																	
is a good problem solver																	
is good at math or science																	
is good at teaching																	
learns easily																	
gets along well with people																	
gets and keeps a good job																	
is a good student																	
is good at English																	
learns on their own																	
is intelligent																	
dances well																	
is good a carpentry																	
is creative																	
is mechanical																	
makes it on their own																	
can do a number of things well																	
is athletic																	
column total	577	544	603	567	703	656	641	655	687	649	656	642	691	643	635	9600	100
column percent	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	100	

Observed Frequencies of Gifts/Talents by Services Matrix

Rearranged Observed Frenquencies of Gifts/Talents by Services Matrix

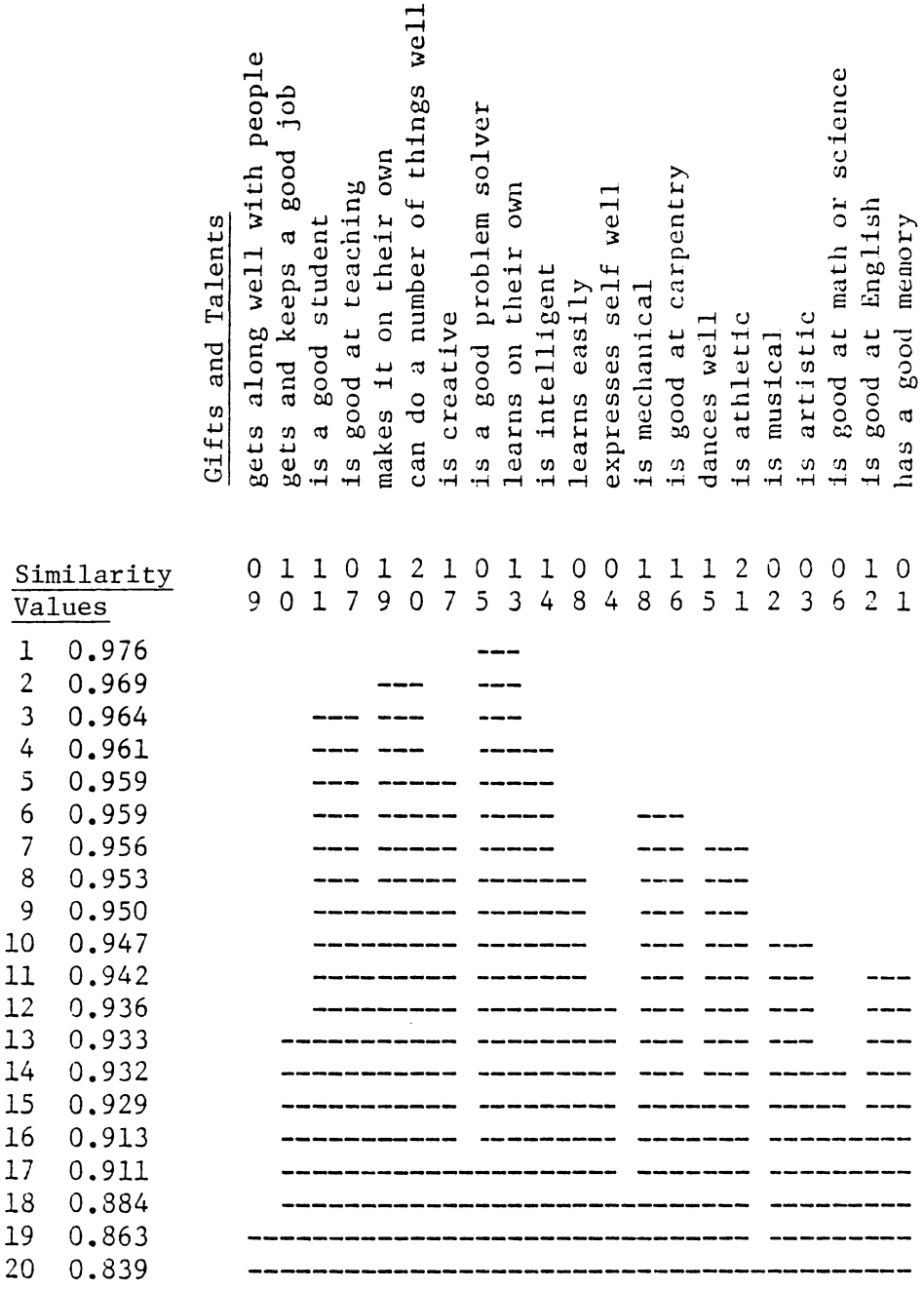
	vocational programs	individualized instruction	higher levels of instruction	classes in areas of gifts or talents	quality materials	opportunities to share time with other g/t students	encourage interests	opportunities to share talents	involving the community	enrichment activities	guidance counselors	special instruction within the classroom	qualified instructors	letting students progress at their own rate	stressing personal relations
is good at carpentry	35	30	25	32	36	33	32	32	36	32	29	30	29	29	31
is mechanical	36	29	27	31	35	33	33	34	35	33	30	32	31	29	35
is creative	34	30	29	32	35	34	35	35	35	35	35	32	34	31	31
can do a number of things well	33	33	29	24	31	34	34	35	34	34	32	32	32	33	31
learns on their own	32	34	30	23	32	32	33	33	32	34	34	31	29	34	32
is a good student	30	33	29	26	33	33	34	34	30	32	34	29	30	31	32
learns easily	28	32	30	25	29	32	35	33	33	29	32	28	29	32	32
is intelligent	28	31	33	25	29	36	35	34	33	31	31	32	33	33	34
is good at teaching	24	30	33	29	32	36	36	35	36	31	35	33	34	32	33
is good at math or science	24	30	34	33	36	35	34	33	33	32	33	34	33	33	30
is artistic	26	32	33	35	34	35	35	36	34	33	33	32	33	30	29
is musical	20	31	32	36	33	34	34	30	34	31	31	32	33	31	28
is good at English	19	30	31	31	34	35	33	34	30	31	32	32	31	30	26
has a good memory	23	31	33	27	25	32	32	34	31	27	27	31	31	32	27
gets along well with people	23	21	14	21	22	31	30	33	33	30	29	29	27	28	33
makes it on their own	28	30	10	22	25	29	31	32	32	31	30	26	27	26	29
is a good problem solver	27	28	26	28	27	31	31	31	33	30	32	31	27	27	32
expresses self well	17	26	21	25	30	33	34	34	33	31	34	30	31	26	34
is athletic	13	22	24	30	32	34	31	34	30	30	29	29	30	30	32
gets and keeps a good job	29	21	23	25	24	32	29	32	31	28	29	30	31	29	30
dances well	15	19	21	27	29	32	30	29	29	31	25	26	28	27	24

APPENDIX K

Hierarchical Clustering for the Beliefs Elicitation

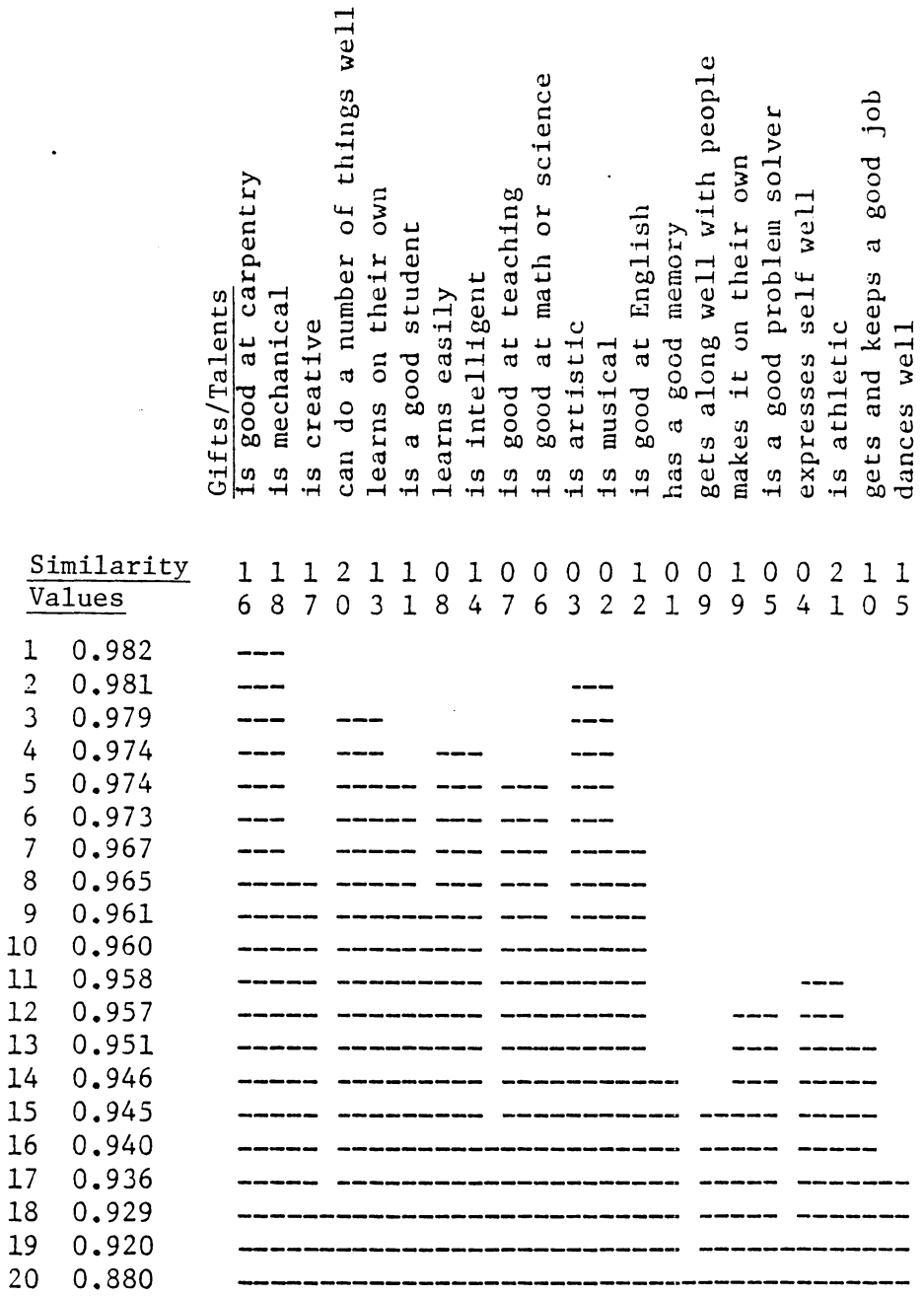
Hierarchical Clustering of Gifts/Talents

for Gifts/Talents by Attributes Matrix

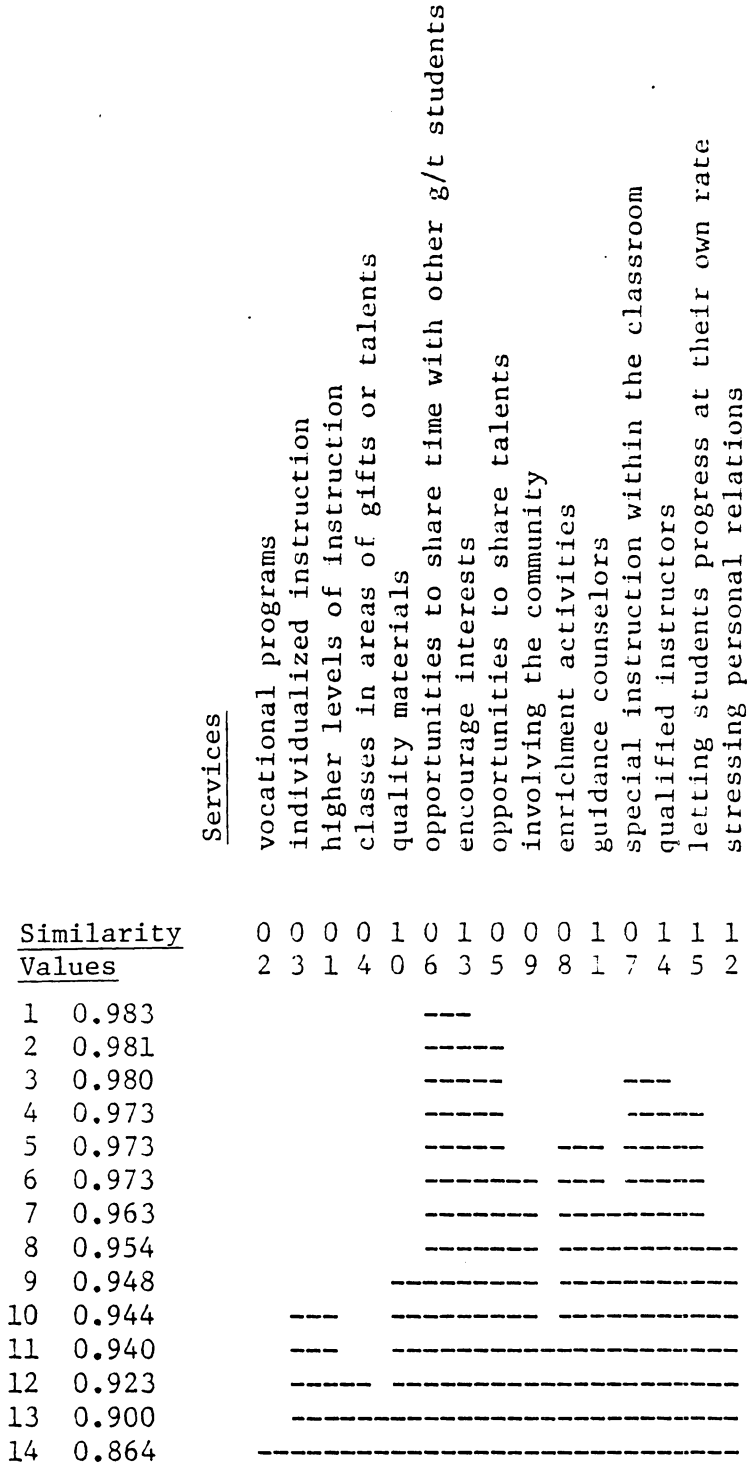


Hierarchical Clustering of Gifts/Talents

for Gifts/Talents by Services Matrix

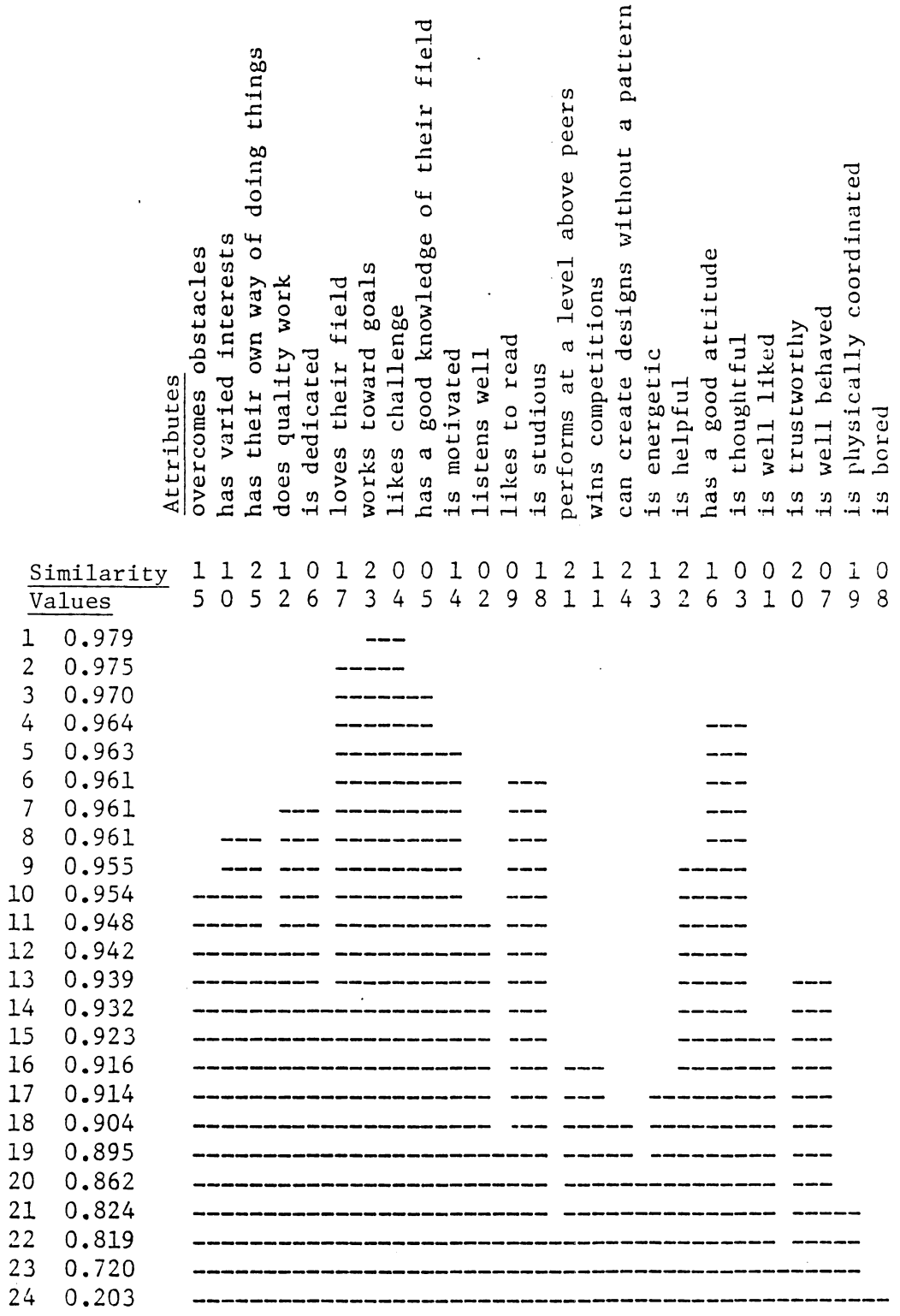


Hierarchical Clustering of Services in terms of Gifts/Talents



Hierarchical Clustering of Attributes

in terms of Gifts/Talents



APPENDIX L

Instrument for the Rank Ordering

Rank Ordering of Gifts/Talents (Importance)

1) The list that you see below is made up of gifts and talents that some people who live in Wise County have. You may think that some of these gifts are more important than others. Please show which ones more closely match your ideas of what it means to have gifts or talents by placing a number from 1 to 18 beside each item. Place a number 1 beside the most important item, a 2 beside the next most important item, and so on until all of the gifts or talents are numbered. The items are in no special order now. There is no right answer. I am interested in your opinion. Be sure to put a number beside each item! Please do not leave any blank.

_____ to have a good memory

_____ to be good at solving problems

_____ to be artistic

_____ to be good at English

_____ to get and keep a good job

_____ to make it (be successful) on their own

_____ to be creative (to think of new ways of doing things)

_____ to dance well

_____ to be good at teaching

_____ to be good at carpentry or mechanics

_____ to do a number of things well

_____ to be a good student

_____ to get along well with people

_____ to be intelligent

_____ to be musical

_____ to be good at math or science

_____ to express themselves well

_____ to be athletic

Rank Ordering of Attributes (Best Description)

2) The items on this second list are words that residents have used to describe people who have gifts or talents. In your opinion some items may come closer to describing gifted or talented people than other items do. Please show which items you think best describe a person who has gifts or talents. There are 20 items in all. The one that you think is the best description should be numbered 1, the next best description should be numbered 2, and so on until all 20 of the items have been numbered. Be sure to number all of the items.

_____ is well liked

_____ listens well

_____ is helpful

_____ works towards goals

_____ knows and loves their field

_____ is dedicated

_____ is well behaved

_____ is bored

_____ likes to read

_____ has lots of different interests

_____ wins competitions or contests

_____ does quality work

_____ is full of energy

_____ overcomes obstacles that get in the way

_____ studies a lot

_____ is physically coordinated

_____ is trustworthy

_____ performs at a level above that of people their age

_____ can create designs without a pattern

_____ has their own way of doing things

Rank Ordering of Services (Best)

3) The third list is made up of educational services which some people think the schools should provide to help children develop their gifts or talents. Some of these services may be better for developing talents than others. Show which service you think is best by placing a 1 beside it; place a 2 by the next best service, and so on until all 13 items are numbered.

_____ higher levels of instruction

_____ vocational programs or courses

_____ individualized instruction

_____ classes in the areas of the gifts or talents (for example, art, music, etc.)

_____ opportunities to spend time sharing gifts, talents, or interests

_____ special instruction in the regular classroom

_____ enrichment activities (opportunities to get experiences they don't normally get in school)

_____ involving people who live in the community

_____ quality materials or equipment

_____ guidance counselors (personal counseling, career counseling)

_____ stressing personal relations (how to get along well with people)

_____ qualified teachers (teachers with special training)

_____ letting students progress at their own rate (letting them work ahead)

APPENDIX M

Cover Letter and Raffle Ticket

for the Rank Ordering

Cover Letter for the Rank Ordering

Dear Wise County Resident,

I would like to ask for your help on a project that I have been working on for the past few months. The purpose of the project is to find out what people thing about various gifts and talents that people have. Why would anyone want to know about gifts and talents? As you can imagine, there are lots of different services that schools can provide to develop children's abilities. Knowing what people think about gifts and talents can be very helpful to educators who have to decide which kinds of services they should provide.

In order to find out people's opinions, I have been talking with Wise County residents and have asked them to talk about the kinds of gifts and talents that people who live in this area have. I must say that everyone I have talked with has been very helpful and has given me valuable information. To complete the project, however, I need to have your opinion about the information I have gathered so far. What I am asking you to do is to take a few minutes of your time to fill out a questionnaire. By filling out and returning the questionnaire, you will not only be helping educators, but you will also have a chance to receive $25.00 for your time and effort.

On the questionnaire, there are three lists. The first is a list of some of the kinds of gifts and talents that some people have. The second is a list of words that might describe people who have gifts or talents. The third is a list of kinds of services that schools might provide to develop children's abilities. I am asking you to show which items on each list are the most important. To do this, all you have to do is read and follow the directions for each list.

After you have given your opinion, please mail the questionnaire in the stamped envelope that is enclosed with this letter. You do not need to put your name on the form or on the envelope. Your answers will be confidential.

If you want to take a chance at receiving $25.00, fill in the yellow slip of paper with your name and address. Return this slip with your completed questionnaire. A drawing form all of the returned slips will be held on May 20, and $25.00 will be sent to the person whose yellow slip is drawn.

Let me thank you in advance for taking a few minutes to participate in this project. When your answers are put together with those of other people, we should have a good understanding of what kinds of gifts and talents are important and what schools might be able to do to help children develop their gifts and talents.

Very truly yours,

Elizabeth McClellan

Raffle Ticket for the Rank Ordering

If you want to have your name included in the drawing for $25.00, fill out this slip and return it with your completed questionnaire.

Name_____

Address_____

_____

APPENDIX N

Notes from Respondents

I am a person who has had to move out of Wise Co.
Where I was born and received my Education and all my
life have been so proud of my home County. I am now 77
77 years old and deplore the fact, that requirements for
High School graduation are far from the standards
until my Graduation at St. Paul High in 1927. I don't
feel like children today are getting the Basics. Too many
extra-curricular activities, not enough fundamentals.
Consider my answers if you wish. I will just sign
myself
A Wise Co. native and always Will be interested.

Dear Ms. McClellen

This was a very interesting questionaire. It is similar in many aspects to some work I did at Appalachian State University when I was taking Community College Teacher Education there.

I met a various group of people who had been through programs for the gifted and talented in other states. It seems that there is more emphasis place on intellectual gifts and talents and less on artistic and creative gifts and talents. Mechanical abilities and coordination, and Manipulative gifts are also Neglected.

Well I wish you luck with your project.

Yours Sincerely

(Name Omitted)

APPENDIX O

Reliability Coefficients for the Beliefs Elicitation

Reliability Coefficients for the

Gifts/Talents by Attributes Matrix

Row	Mean	S_x	KR20
1	16.9722	4.7287	0.8328
2	17.7500	4.0303	0.7854
3	18.5555	4.0308	0.8029
4	18.7778	4.4417	0.8323
5	20.2778	3.2626	0.7511
6	18.3889	3.9811	0.8007
7	20.6944	3.4946	0.8110
8	19.0000	4.3715	0.8336
9	18.3611	3.8813	0.7931
10	21.1389	2.7199	0.7315
11	21.1667	2.2423	0.5615
12	17.5278	5.1720	0.8781
13	19.8055	3.5965	0.7894
14	19.6111	3.8535	0.8178
15	18.6111	4.1985	0.8337
16	18.6667	3.9371	0.8009
17	20.5833	3.0676	0.7561
18	18.1944	4.5266	0.8486
19	20.2500	2.7926	0.6617
20	20.6111	2.9654	0.7364
21	19.2500	3.7592	0.8249

Reliability Coefficients for the

Gifts/Talents by Services Matrix

Row	Mean	S_x	KR20
1	12.3333	2.9250	0.8103
2	13.2222	2.1358	0.7412
3	13.6111	1.7365	0.6503
4	12.2500	2.7726	0.7986
5	12.3056	2.6439	0.7404
6	13.5278	2.0614	0.7584
7	13.5833	1.6223	0.5949
8	12.7222	2.8246	0.8221
9	11.2222	3.0195	0.7785
10	11.8889	2.6851	0.7212
11	13.0556	1.8995	0.5861
12	12.7500	2.4763	0.7655
13	13.1944	2.7062	0.8516
14	13.2778	1.9381	0.6616
15	10.8889	3.7698	0.8644
16	13.0833	2.2531	0.7384
17	13.8611	2.1102	0.8288
18	13.2778	1.9806	0.6748
19	11.5556	3.7450	0.8813
20	13.3611	2.3823	0.8108
21	11.9444	2.9622	0.8125

Reliability Coefficients for the

Gifts/Talents by Attributes Matrix

Column	Mean	S_x	KR20
1	14.7500	4.3740	0.8353
2	18.6944	1.9411	0.5333
3	15.4167	5.3405	0.9110
4	19.5278	2.4999	0.8318
5	19.8889	1.3901	0.5511
6	17.6111	3.9249	0.8681
7	11.5833	5.6685	0.8985
8	2.2778	3.0515	0.8292
9	16.6389	3.4169	0.7932
10	18.9444	2.7075	0.8011
11	15.1111	5.4098	0.9089
12	18.2778	2.5123	0.6806
13	17.0833	3.8541	0.8470
14	19.5278	1.6582	0.5576
15	18.1944	2.7062	0.7437
16	16.0555	4.7490	0.8890
17	19.2222	1.8275	0.5673
18	16.4167	4.3486	0.8743
19	13.1111	5.8442	0.9196
20	11.3056	7.3327	0.9538
21	13.8056	5.8633	0.9123
22	16.3611	5.1324	0.9161
23	19.6667	2.1603	0.7861
24	16.3611	4.3086	0.8681
25	18.3611	4.6914	0.9466

Reliability Coefficients for the

Gifts/Talents by Services Matrix

Column	Mean	S_x	KR20
1	16.0278	3.9404	0.8253
2	15.1111	3.9915	0.8139
3	16.7500	4.9518	0.9173
4	16.3055	4.0813	0.8378
5	19.5273	2.1537	0.7497
6	19.3333	3.0185	0.8787
7	17.8055	4.9263	0.9358
8	18.1944	4.2152	0.9101
9	19.0833	3.2777	0.8858
10	18.0278	3.5706	0.8580
11	18.2222	3.5987	0.8633
12	17.8333	4.5552	0.9194
13	19.1944	2.9233	0.8546
14	17.8611	4.6795	0.9258
15	17.6389	5.9074	0.9674

APPENDIX P

Preliminary Categories

for the Analysis of the Domain Definition Data

Preliminary Categories of Abilities (Gifts/Talents)

Physical
Professional/making it
Artistic
Social
Travel/adventures
Intellectual
Dance
Drama
Music
Academic
Teaching
Mechanical
Construction/carpentry
Other

Preliminary Categories of Identifiers (Attributes)

Personality/work habits
Personality traits
Social/good people
Musical
Teaching
Physical
Business/professional
Cooking
Building/carpentry/mining/bricklaying
Social, general
Artistic
Conversation/vocabulary
Electrical
Drama
Traveling/Outdoors
Making it
Dance
Mechanical/fixing things
Academic/grades/school
Intellectual
General
Other

Preliminary Categories of Abilities and Identifiers

Intellectual
Artistic
Academic/grades/school
Drama/story telling
Music
Social/good people
Dance/physical
Making it
Electrical/mechanical
Business/professional
Vocabulary
Cooking
Teaching
Construction/building
Other

Preliminary Categories of Services

Art
Vocational
Social/making it
Teaching
Music
Physical
Intellectual
Academic
General
Other

APPENDIX Q

Rearranged Rank Orderings

Rank Order of Gifts/Talents

Rank		Mean
1	To get along well with people	3.73
2	To express themselves well	5.97
3	To be good at solving problems	6.39
4	To do a number of things well	6.53
5	To be creative	6.70
6	To make it on their own	6.75
7	To get and keep a good job	7.07
8	To have a good memory	7.08
9	To be intelligent	8.15
10	To be a good student	9.37
11	To be good at English	10.36
12	To be good at teaching	10.46
13	To be good at math or science	11.79
14	To be artistic	11.84
15	To be good at carpentry or mechanics	13.36
16	To be musical	13.55
17	To be athletic	15.13
18	To dance well	16.35

Rank Order of Attributes

Rank		Mean
1	Is dedicated	5.59
2	Works towards goals	6.34
3	Overcomes obstacles	6.79
4	Does quality work	7.42
5	Is trustworthy	7.60
6	Listens well	7.82
7	Is helpful	8.06
8	Knows and loves their field	8.12
9	Has lots of different interests	8.99
10	Is well liked	9.03
11	Is well behaved	9.95
12	Performs at a level above that of peers	11.27
13	Can create designs without a pattern	12.14
14	Has their own way of doing things	12.57
15	Likes to read	12.70
16	Is full of energy	13.05
17	Is physically coordinated	13.24
18	Studies a lot	14.36
19	Wins competitions or contests	15.55
20	Is bored	19.44

Rank Order of Services

Rank		Mean
1	Qualified teachers	4.84
2	Higher levels of instruction	6.13
3	Classes in areas of gifts/talents	6.22
4	Individualized instruction	6.35
5	Stressing personal relations	6.72
6	Letting students progress at own rate	6.77
7	Enrichment activities	6.98
8	Vocational programs or courses	7.05
9	Special instruction in regular classroom	7.51
10	Opportunities to spend time with other g/t	7.55
11	Quality materials or equipment	7.75
12	Guidance counselors	8.09
13	Involving people who live in the community	9.08

APPENDIX R

ANOVAs for the Rank Ordering

ANOVA for the Rank Ordering of Gifts/Talents

	SS	DF	MS	F
Between	38557.71	17	2268.1	151.922
Within	47833.6	3204	14.93	
Total	86391.3	3321		

Probability .00000

ANOVA for the Rank Ordering of Attributes

	SS	DF	MS	F
Between	43563.05	19	2292.79	107.654
Within	75819.53	3560	21.3	
Total	119382.58	3579		

Probability .00000

ANOVA for the Rank Ordering of Services

	SS	DF	MS	F
Between	2372.86	12	197.74	15.1368
Within	30228.69	2314	13.06	
Total	32601.56	2326		

Probability .00000

APPENDIX S

Renzulli/Hartman

Scale for Rating Behavioral Characteristics

of Superior 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 place an X in the appropriate place 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.*

Space has been provided following each item for your comments.

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

- *Add* the total number of X's 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 ..... _____

Editor's Note: The procedures used in constructing and validating this instrument are discussed in an article which appears on page 211 of this issue of *Exceptional Children.* Readers who are interested in using this rating scale are hereby given permission to reproduce pages 243 to 248 in a limited number (100 or less) if the reprints are not to be sold for profit.

From *Exceptional Children,* November 1971, pp. 243-248.

Part I: Learning Characteristics

	1*	2	3	4
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. (National Education Association, 1960; Terman & Oden, 1947; Witty, 1955)	☐	☐	☐	☐
2. Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his age). (Ward, 1961; Terman, 1925; Witty, 1958)	☐	☐	☐	☐
3. Has quick mastery and recall of factual information. (Goodhart & Schmidt, 1940; Terman & Oden, 1947; National Education Association, 1960)	☐	☐	☐	☐
4. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions (as distinct from informational or factual questions); wants to know what makes things (or people) "tick." (Carroll, 1940; Witty, 1958; Goodhart & Schmidt, 1940)	☐	☐	☐	☐
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. (Bristow, 1951; Carroll, 1940; Ward, 1961)	☐	☐	☐	☐
6. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc. than others. (Witty, 1958; Carroll, 1940; National Education Association, 1960)	☐	☐	☐	☐
7. Reads a great deal on his own; usually prefers adult level books; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedias, and atlases. (Hollingworth, 1942; Witty, 1958; Terman & Oden, 1947)	☐	☐	☐	☐
8. Tries to understand complicated material by separating it into its respective parts; reasons things out for himself; sees logical and common sense answers. (Freehill, 1961; Ward, 1962; Strang, 1958)	☐	☐	☐	☐
Column Total	☐	☐	☐	☐
Weight	1	2	3	4
Weighted Column Total	☐	☐	☐	☐
Total			☐	

*1—Seldom or never
2—Occasionally
3—Considerably
4—Almost always

Part II: Motivational Characteristics

	1	2	3	4
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.) (Freehill, 1961; Brandwein, 1955; Strang, 1958)	☐	☐	☐	☐
2. Is easily bored with routine tasks. (Ward, 1962; Terman & Oden, 1947; Ward, 1961)	☐	☐	☐	☐
3. Needs little external motivation to follow through in work that initially excites him. (Carroll, 1940; Ward, 1961; Villars, 1957)	☐	☐	☐	☐
4. Strives toward perfection; is self critical; is not easily satisfied with his own speed or products. (Strang, 1958; Freehill, 1961; Carroll, 1940)	☐	☐	☐	☐
5. Prefers to work independently; requires little direction from teachers. (Torrance, 1965; Gowan & Demos, 1964; Mokovic, 1953)	☐	☐	☐	☐
6. Is interested in many "adult" problems such as religion, politics, sex, race—more than usual for age level. (Witty, 1955; Ward, 1961; Chaffee, 1963)	☐	☐	☐	☐
7. Often is self assertive (sometimes even aggressive); stubborn in his beliefs. (Buhler & Guirl, 1963; Gowan & Demos, 1964; Ward, 1961)	☐	☐	☐	☐
8. Likes to organize and bring structure to things, people, and situations. (Ward, 1961; Gowan & Demos, 1964; Buhler & Guirl, 1963)	☐	☐	☐	☐
9. Is quite concerned with right and wrong, good and bad; often evaluates and passes judgment on events, people, and things. (Getzels & Jackson, 1962; Buhler & Guirl, 1963; Carroll, 1940)	☐	☐	☐	☐
Column Total	☐	☐	☐	☐
Weight	☐	☐	☐	☐
Weighted Column Total	1	2	3	4
Total			☐	

Part III: Creativity Characteristics

	1	2	3	4
1. Displays a greal deal of curiosity about many things; is constantly asking questions about anything and everything. (National Education Association, 1960; Goodhart & Schmidt, 1940; Torrance, 1962)	☐	☐	☐	☐
2. Generates a large number of ideas or solutions to problems and questions; often offers unusual ("way out"), unique, clever responses. (Carroll, 1940; Hollingworth, 1942; National Education Association, 1960)	☐	☐	☐	☐

3. Is uninhibited in expressions of opinion; is sometimes radical and spirited in disagreement; is tenacious. (Torrance, 1965; Gowan & Demos, 1964; Getzels & Jackson, 1962)	☐	☐	☐	☐
4. Is a high risk taker; is adventurous and speculative. (Getzels & Jackson, 1962; Villars, 1957; Torrance, 1965)	☐	☐	☐	☐
5. Displays a good deal of intellectual playfulness; fantasizes; imagines ("I wonder what would happen if. . . ."); manipulates ideas (i.e., changes, elaborates upon them); is often concerned with adapting, improving, and modifying institutions, objects, and systems. (Rogers, 1959; Gowan & Demos, 1964; Getzels & Jackson, 1962)	☐	☐	☐	☐
6. Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others. (Torrance, 1962; Gowan & Demos, 1964; Getzels & Jackson, 1962)	☐	☐	☐	☐
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. (Torrance, 1962; Rothney & Coopman, 1958; Gowan & Demos, 1964)	☐	☐	☐	☐
8. Is sensitive to beauty; attends to aesthetic characteristics of things. (Wilson, 1965; Witty, 1958; Villars, 1957)	☐	☐	☐	☐
9. Is nonconforming; accepts disorder; is not interested in details; is individualistic; does not fear being different. (Carroll, 1940; Buhler & Guirl, 1963; Getzels & Jackson, 1962)	☐	☐	☐	☐
10. Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination. (Ward, 1962; Martinson, 1963; Torrance, 1962)	☐	☐	☐	☐
Column Total	☐	☐	☐	☐
Weight	☐	☐	☐	☐
Weighted Column Total	1	2	3	4
Total				

Part IV: Leadership Characteristics

	1	2	3	4
1. Carries responsibility well; can be counted on to do what he has promised and usually does it well. (Baldwin, 1932; Bellingrath, 1930; Burks, 1938)	☐	☐	☐	☐
2. Is self confident with children his own age as well as adults; seems comfortable when asked to show his work to the class. (Drake, 1944; Cowley, 1931; Bellingrath, 1930)	☐	☐	☐	☐
3. Seems to be well liked by his classmates. (Bellingrath, 1930; Garrison, 1935; Zeleny, 1939)	☐	☐	☐	☐
4. Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with. (Dunkerly, 1940; Newcomb, 1943; Fauquier & Gilchrist, 1942)	☐	☐	☐	☐

5.	Can express himself well; has good verbal facility and is usually well understood. (Simpson, 1938; Terman, 1904; Burks, 1938)	☐	☐	☐	☐
6.	Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed. (Eichler, 1934; Flemming, 1935; Caldwell, 1926)	☐	☐	☐	☐
7.	Seems to enjoy being around other people; is sociable and prefers not to be alone. (Drake, 1944; Goodenough, 1930; Bonney, 1943)	☐	☐	☐	☐
8.	Tends to dominate others when they are around; generally directs the activity in which he is involved. (Richardson & Hanawalt, 1943; Hunter & Jordan, 1939; Bowden, 1926)	☐	☐	☐	☐
9.	Participates in most social activities connected with the school; can be counted on to be there if anyone is. (Zeleny, 1939; Link, 1944; Courtenay, 1938)	☐	☐	☐	☐
10.	Excels in athletic activities; is well coordinated and enjoys all sorts of athletic games. (Flemming, 1935; Partridge, 1934; Spaulding, 1934)	☐	☐	☐	☐
	Column Total	☐	☐	☐	☐
	Weight	1	2	3	4
	Weighted Column Total	☐	☐	☐	☐
	Total			☐	