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ABSTRACT

The document on characteristics and identification, is the first book in a multimedia program "Educating the Gifted and Talented," a series designed to provide background information, supplementary materials, workshop activities, and discussion questions for individuals and teachers who work or are preparing to work with gifted and talented students. An initial section discusses some of the characteristics of gifted and talented students by focusing on individual abilities, interests, and needs and by encouraging the reader to look closely at specific students. Addressed are indicators of giftedness, problems encountered by the gifted, and the problems of definition. Supplementary materials for this section include lists of characteristics of creative gifted children, some general characteristics of gifted children, and behaviors in six talent areas. Five teacher activities are explained to help explore the underlying issues to be considered when examining characteristics of gifted individuals. A second section introduces instruments and procedures for identification and contains sample identification instruments and materials (scales, teacher checklists, questionnaires and inventories, creativity measures); sources of instruments; and a list of references. Among the instruments and materials cited are the Checklist for Culturally Disadvantaged Underachieving Mentally Gifted Minors and the Autobiographical Questionnaire. Three teacher activities related to identification conclude the document. (SBH)

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Characteristics and Identification of Gifted and Talented Students

by **Frederick B. Tuttle, Jr.**
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PREFACE

Characteristics and Identification of Gifted and Talented Students is the first book in NEA's multimedia program *Educating the Gifted and Talented*, which is designed to provide background information, supplementary materials, workshop activities, and discussion questions for (a) individuals who are preparing to work with gifted and talented students, (b) teachers who currently work with classes of gifted and talented students, and (c) teachers who have a few gifted and talented students in their classes. The materials in this program are also intended to help administrators and parents concerned with issues involved in the education of the gifted and talented. While these groups constitute the primary audience, we believe we have also addressed concerns and ideas affecting teaching at all levels.

We bring to this task our own learning experiences which have been filled not only with a careful study of the research that has been conducted in this field by many different researchers over the past sixty years, but also the knowledge gained from working in classrooms at all levels with gifted and highly gifted students. In addition, we have gained other insights into educating the gifted and talented from our work in school districts with supervisors, program developers, principals, and superintendents, as well as in teacher training programs and workshops throughout the United States. As a result of these experiences, we have tried to give life to the theoretical by including numerous specific examples. Another source of learning has come through our encounters with many forms of literature—short stories, novels, poetry, television, and film—which embody the gifted and talented in dramatic and powerful ways. Therefore, we have also included in our discussions and references materials not customarily found in teacher training literature.

In our work with teachers and students we have found extremely helpful the use of yet another approach to understanding—the metaphorical. For example, we may wish to convince someone of the need to design approaches to curriculum which will seriously take into account individual differences in learning styles, ways of processing information, rates of learning, memory, interests, and skills. Rather than speaking directly to the subject, however, we may be more effective if we first examine

a handful of many different kinds of seeds (corn, pumpkin, spinach, squash, acorn, avocado) and then ask, "What is needed to make these seeds grow?" In answering this question it soon becomes evident that any responsible farmer would first find out the kind of seeds involved and then be careful to discover the particular soil, nutrients, water, sunlight, heat or cold, spacing, and planting cycle for each type. To provide a bridge between the seeds and our students we ask the question, "Can we dare to cultivate uniqueness in the classroom?" Any number of books which have appeared in recent years point to the rather startling changes that take place when a person becomes sensitized to the environment. Books like *Stalking the Wild Asparagus* (4) and *One Hundred Sixty Edible Plants* (2) are all intent upon sharpening our perceptions of the world around us. Where the untrained eye once looked upon a field and saw a collection of weeds, the same field seen by the trained and practiced eye of the naturalist can yield a virtual bouquet of delights. The field has not changed, but the observer is able to perceive the nature and quality of its contents because of a special training.

If such an approach is new or unusual, we encourage you to consider it as a possible method to explore not only for yourself but also for your working with the gifted.

The general format of this book incorporates both discussion and application of each major topic by a division of the text into three sections. The first section offers background information and ideas on each topic. The second section provides supplementary materials and examples for your interest and use. Finally, the third section presents a series of activities to help you become involved with the topic and to help apply the ideas to your specific situation. Throughout the text we have embedded examples, related experiences, and commentary for interest as well as to illustrate the ideas. (Although the facts in the anecdotes are true, the names of persons involved have been changed to protect their privacy.) This format is intended to help you with background information and, especially, with internalization and application of the various ideas about the major topics.

The first book in this project begins with a discussion of some of the many characteristics of gifted and talented students by focusing on individual abilities, interests, and needs and by encouraging the reader to look closely at specific students. By developing an ever-increasing sensitivity to the presence of these characteristics and the behaviors which reflect them, we as

teachers can better enable students to continue to enlarge and expand their horizons. Not only will this increased awareness affect the gifted and talented, but it will also affect other students as we begin to look more positively at some of their divergent behaviors.

Although the various areas of concern are presented in a sequential fashion throughout the different texts, teachers and program developers are encouraged to move freely back and forth among them. While considering program development, for example, specific characteristics of gifted and talented students in the school population should be kept clearly in mind so that the strategies developed will build upon these characteristics rather than contradict them. If, for example, the aim is to design a program to develop general intellectual or creative abilities, it would probably be well to avoid a narrow, accelerated, content-oriented curriculum, the focus of which would be in opposition to the broad interests and probing curiosity characteristic of this population.

We gratefully acknowledge the many substantive contributions to this work by Margot Nicholas Parrot of Hancock, Maine. As a parent of three highly gifted children and as an adult with many gifts herself, Gotte has brought a level of practical insight and fearless and straightforward comment and energy to all her interaction with us.

We are grateful, too, for the comments of the teachers and administrators enrolled in the Gifted Institute taught by Fred Tuttle and Hap Metivier during the spring of 1979, as well as for the comments of those teachers who worked with these materials in the fall of 1979.

Special thanks are also extended to Patricia Tuttle and Rosanne Becker for their extreme patience and endurance during the many writing sessions involved in the completion of this work.

CHARACTERISTICS

If nothing else, a program for gifted and talented students should make all teachers aware of the potential for giftedness in individuals. Some student behavior which many consider disruptive may, at times, indicate giftedness. This viewpoint should raise expectations and possibilities for all students.

The lists of characteristics of gifted individuals are almost as numerous as the students themselves. Many educators have published lists of characteristics and have derived a variety of definitions for this population. However, the specific school or teacher may find that lists developed by others are inadequate for the simple reason that these lists fail to consider the unique resources, goals, and community of the particular school or district. A workable definition of gifted and talented may not be so easy to develop as one might once have believed.

When asked "Which of the students you presently teach knows more about a subject than you do?" some teachers state they cannot name any such student. The overall purpose of this text is to help teachers at all levels, primary through secondary, to become more sensitive to those individuals in their classes who have keen interests, broad experience, superior knowledge, or perhaps a different way of viewing the people and places which comprise their learning environments. In many classes gifted and talented pupils go unnoticed and consequently fail to continue to develop their potential throughout their school careers. These students deserve the same opportunity as others to develop to the fullest extent possible.

However, in many academic situations the existence of these gifted and talented students may not even be recognized. If the focus is on the acquisition of content, particular attention may be paid to learners who have considerable difficulty with the content and who have fallen behind the others. In addition, students who fulfill goals of neatness, punctuality, and appropriate classroom behavior are often rewarded, while those who do not conform to these expectations are penalized. Sometimes the truly gifted succeed only outside the curriculum or outside the school. Too frequently those behaviors which may indicate superior abilities serve to create additional difficulties and problems.

INDICATORS OF GIFTEDNESS

Gifted and talented individuals are many times stereotyped as being emotionally tense, high-strung, uncoordinated, and bookish. This description as misfits has been disproved repeatedly by many educators and researchers who have found that often the gifted are the social as well as the intellectual leaders. As Gallagher states, the gifted are "almost invariably more popular and more socially accepted than children at other levels of intellectual ability." (3) In many situations the gifted individual may be the class leader rather than the class oddity—depending, of course, on the specific school and the values of teachers and students, and whether the particular type of abilities are held in high esteem. The degree of ability may also affect the leadership role. Einstein and Churchill were hardly class presidents.

The "class leader" in Edward's class is, in fact, gifted both intellectually and in sports. However, he is not so far ahead of his classmates academically as Edward is, and this may make a difference in terms of general social leadership. Edward, a third grader, seems to be better accepted in his fifth grade math class.

The term *gifted* has been greatly expanded since the early researchers like Terman began their studies. Torrance, Gowan, Guilford, Taylor and many others, for example, have continually stressed skills and talents other than academic ability and IQ, emphasizing areas such as creative thinking and problem solving. (See also *Issues in Gifted Education* (3a) and *What Makes Giftedness* (10a).) To reflect this expanding concept of giftedness, the U.S. Office of Education reports of 1972 and 1978 broadened the definition of gifted and talented to include several areas beyond intellectual and academic abilities. (See "Problems of Definition.")

Several lists of characteristics of gifted individuals have been disseminated throughout the country. (See Supplementary Materials.) Regardless of list selected, it should be remembered that the behaviors cited merely give tentative, general characteristics. Particular gifted individuals may not possess all the characteristics and may indeed act in such a way to conceal these traits, especially as they progress through school. If the school allows and encourages individuals to exhibit their natural traits, however, certain characteristics will become more evident.

Typical of such lists of characteristics reflecting gifted ability is the following:

A gifted individual—

1. is curious.
2. is persistent in pursuit of interests and questions.
3. is perceptive of the environment.
4. is critical of self and others.
5. has a highly developed sense of humor, often a verbal orientation.
6. is sensitive to injustices on personal and worldwide levels.
7. is a leader in various areas.
8. is not willing to accept superficial statements, responses, or evaluations.
9. understands general principles easily.
10. often responds to the environment through media and means other than print and writing.
11. sees relationships among seemingly diverse ideas.
12. generates many ideas for a specific stimulus.

The foregoing characteristics may be grouped into three areas: personal (1-3), interpersonal (4-7), and processing of information (8-12). Another perspective is suggested by Donald Nasca, State University of New York, College at Brockport, who has described gifted learners using computer terminology: "If you take a look at the number of descriptors that we can put together on giftedness, they comprise three different categories. First of all, is sensory input. Gifted students are capable of receiving more information from their environment. Secondly, is storage capacity. They are able to store more information. Third, is processing of information. Gifted students seem to be able to call upon a greater variety of techniques to process information that they have available. The gifted are producers of information whereas their age-mates tend to be accumulators of information and recallers of information." (15)

Although these lists describe behaviors which the gifted may exhibit in a classroom, sometimes the characteristics of gifted individuals become evident even before school age. When viewing indicative behaviors of preschool children, we should ask ourselves if the behaviors are different from those expected of other children of the same age. Margot Parrot, a parent of

three highly gifted children, shared the following characteristics and indicative behaviors of preschool gifted children from her own experiences and extensive readings as a concerned parent.

1. Early language acquisition: uses a large vocabulary; speaks in long, complex sentences; talks early and often. Many gifted children, however, do not speak early but wait until they are older and then display a remarkable facility with language.
2. Fine and gross motor skills: walks, climbs, runs early and well; controls small objects such as scissors, pencils, crayons, etc., easily; copies pictures and words; handles tools well.
3. Intellectual areas: reads signs or even books; does mathematical problems; draws associations among diverse ideas; remembers facts and events; is interested in social and moral issues; has a long attention span; asks why.
4. Social areas: has empathy for others; is self-confident and independent; organizes and leads group activities; very active both mentally and physically.
5. Creative areas: has a vivid imagination; enjoys playing with words and ideas; shows a highly developed, often verbal sense of humor; uses objects, toys, colors in imaginative ways.
6. Specific areas: plays musical instrument; plays sports well; sings; in general, shows remarkable ability in specific area.

According to Parrot, "In identifying by traits, it all boils down to being different, either in kind or intensity."

If your initial reaction to this list is to wonder how it differs from other lists, perhaps you share the viewpoint favored by Halbert B. Robinson, Director of the Center for Study of Gifted Children, University of Washington, Seattle, who states: "I know of no evidence, however, that gifted children are in any meaningful way different than other children. They are precocious, we know, but precocity has more to say about their rate of development in the area of their gifts than about the qualitative path their development has taken." (11)

I've been thinking about what exactly made my children so different, from an early age. With Edward it was: *motivation* (he went from a helpless infant to a child who could crawl, sit, stand, walk holding on, and even *speak*; early *speech* (putting two words together at nine months when most babies don't even *know* two words); memory, sensitivity to environment and to other people; and *piercing questions*. Then, of course, there was his early reading (books at four and one-half) and mathematical ability (by five and one-half he had mastered all major concepts of elementary school math in his head). Chrysal was entirely different. Her motor ability and verbal ability developed earlier but over a longer period (at two and one-half to three months, Chrysal devised a means of locomotion: she would roll across the floor to get to a desired object), by two she had mastered scissors completely. At three she was writing legibly and doing art work which was identifiable. From three to five she was too ill to show her remarkable mental abilities, so I was surprised to learn how high her IQ was. She read at about four and one-half to five. Her emotional development was moderately impaired by illness—her own illness and her baby brother's. Louis' *memory* was amazing as a baby—and from the time he was an infant he seemed to be *unusually friendly and well adjusted*—which was more amazing considering the fact that he spent much of his babyhood in the hospital—often either in pain or drugged and much of his toddlerhood in isolation to prevent infection. He is, at three, not only very *verbal and perceptive*, but also very outgoing and secure. He loves classical music and sings well. *He plays with words and ideas like toys*. His understanding of math concepts is becoming more obvious and although he has been reading some words since two, he is just starting to put together the skills to read phonically. I expect him to read at a first grade level in a few more months, at age four.

The thing that I realize upon looking back is that all three children were showing evidence of giftedness before the age of one year old and all three were branching out into areas in which they would excel by age two. By that time, strangers would make such remarks as "Isn't he the smart one," or "He seems more like three than two." I suppose I agree with Robinson that precocity is the main thing. But these kids have a way of interacting with their environment that does seem *qualitatively* different—call it deeper perception, perhaps. My kids seem to do some things that most other kids *just don't do* at any age. (This difference may be cultural, though.) The difference between mental age, emotional age, and physical age (at one point Chrysal was "classified" as having a mental age of nine and one-half, emotional age of two to four, and physical age of five and one-half) seems to produce unique characteristics, besides. When a child in diapers is reading, I for one am curious about how he views the world.

(Margot Parrot)

These lists of characteristics of gifted and talented individuals are usually appropriate for the majority of our populations. Many of these behaviors, however, may not reflect giftedness in individuals from different cultural backgrounds and environments. An example from one group, First Americans, will illustrate this caution.

In this culture, or variety of cultures, many of the indicators of superior abilities may be in opposition to those most often found on lists of characteristics of gifted and talented—high verbal ability, impatience, and persistence in pursuit of answers. For many First Americans, such behaviors conflict with their cultural expectations and would not therefore be evidenced by gifted individuals in that population.

Examining work done by E. P. Torrance (14), Tom Peacock, Director of Education for the Minnesota Chippewa Tribe, comments on the characteristics listed by Torrance in relation to the Chippewa Tribe:

- *Emotional Responsiveness*—What the psychologist Alan Briskin would refer to as emotional excitability. This type of person listens intensely and has a strong empathy for others—is highly aware of the feelings, distress, and needs of others.
- *Richness of Imagery*—The Chippewa language is rich in imagery. This type of student shows strong imagery in dance, movement, in relating to experiences, in oral reading, in role-playing, and dramatics and drawing and other art work.
- *Responsiveness to the Concrete*—This may be an adaptive response to poverty and discrimination. The natural response to these may be a pride in strength and distrust of schooling.
- *Enjoyment of and Ability in Creative Movement and Dance*—This type of student experiences deep enjoyment in creative movement and dance and becomes deeply absorbed in it. Such students are excellent interpreters of movement and dance. In the Indian world this is easily noticed in the dance of our talented traditional and fancy dancers.
- *Enjoyment and Ability in Visual Arts*—This student experiences real joy in drawing, painting, sculpture, or

photography and becomes deeply absorbed in it. Some of these students go to the Institute for American Indian Arts if their ability is recognized and nurtured. The beauty of Indian crafts leads one to believe we have many gifted artists.

- *Ability to Improvise with Commonplace Materials and Objects*—Indian children who have grown up in poverty exhibit this trait in a sometimes humorous manner. One Tribal Chairman reflected to me how after Christmas in his school the teacher would have show and tell so the students could bring their favorite Christmas present. He said his toys were kettles and silverware, and he used raw potatoes as his toy trucks and cars. A sad case in point, but I once observed a child using a beer can as a car and making motor sounds—doing circle spins. Sometimes it is an adaptive response to not having any toys or games. Students may exhibit this behavior by making toys and games from commonplace things, using common materials for unintended uses at home and school, and using common material inventions. (8)

Although the lists of characteristics of gifted and talented ability provide valuable tools for locating and identifying these individuals in schools, several cautions about their implementation are suggested. *First*, the lists reflect several traits, and specific indicators should be developed to reflect particular situations and types of giftedness. *Second*, these characteristics will be demonstrated only in environments which encourage individuals to display them. *Third*, individuals within different cultures may have characteristics not included on general lists or which may even be in opposition to those usually cited. Consequently, the search for indicators of giftedness should take into account the total environment, of both giftedness and the population, before the most appropriate decision for a particular school is made.

PROBLEMS ENCOUNTERED BY GIFTED

Too often the behaviors indicative of superior abilities create difficulties for the gifted individual.

Even with an extensive list of characteristics, it is difficult to determine giftedness in many students who have learned,

consciously or subconsciously, to hide their true abilities. This statement may sound strange, but it is not when we examine the conditions under which the gifted have to function. First, their peers may place little value on intellectual giftedness. The athlete is admired and the clown is honored, but the intellectual is often ridiculed by classmates. Consider the case of the student who wrote a letter to an editor asking if it would be immoral to cheat on tests to achieve a lower score. This girl scored so well on her exams that she was affecting the curve, causing her classmates to receive lower grades. Michael Pyryt conducted a study in 1976 on the perceptions of inner-city youths toward the gifted. He found that "The inner-city students saw the mathematically talented students as show offs while the gifted students themselves and their teachers saw them as more argumentative and opinionated." (9)

Cecelia Solano noted in 1976 that "students from a more middle-class school also saw the gifted as conceited and boastful." (13) As a result of peer pressure, and perhaps even teacher pressure, many gifted students become withdrawn or rebellious in the classroom, making it even more difficult to recognize their true potential.

Tara Stuart of Horizons Unlimited, in Keene, New Hampshire, relates a story which illustrates how a gifted individual may be affected by the attitude of peers and teachers.

In England several years ago I recall meeting Neil, a very sensitive and highly gifted child. The advent of kindergarten and first grade provided the trauma of a precocious, joyous child that read at four and played chess at five into a self-effacing, nonverbal seven year old. In attempting to reassure and help her son, Neil's mother one day talked with him about the map of the world and how explorers had traveled across thousands of miles and unknown seas and continents to discover new lands and that when they returned to their own lands, few people could understand and identify with the explorers' new knowledge of the world and all they had undergone to attain it. Then she drew a map to represent the conscious being. She carefully pointed out that in his life he had the capacity to explore the areas of the higher unconscious that many people only glimpsed occasionally, that he was like an explorer. He was exploring the dimensions of his inner world. The bright-eyed Neil burst out, "I wish you had told me that when I was four. I always knew I was different, but I thought I was different in a bad sort of way." (15)

To avoid creating similar feelings in other children, we should learn to observe students individually with the expectation that perhaps their behavior might be indicative of potential superior ability. The following discussion focuses attention on characteristics and behaviors which are accepted as potential indications of giftedness but which are often penalized in the academic setting.

Divergent Thinking

Most educators acknowledge divergent thinking as a desirable trait, but few really value it in the classroom. A divergent thinker will often arrive at apparently erroneous answers but, when asked to explain such answers, can usually prove the "wrong answer" is valid if looked at from another point of view. Most teachers, however, have too much content to cover, too many students, and too little time to allow such students to demonstrate the validity of the divergent response and may tend to mark these responses incorrect. The result of this process may be that the student accepts the teacher's opinion without question and begins to doubt his or her own thinking processes.

Often the divergent thinker is also the person with the strange sense of humor—the person whose remarks are humorous in retrospect after one has an opportunity to realize the subtleties of the statement or comment, or the unusual associations drawn. This ability to see relationships among seemingly disparate ideas leads these individuals to paths not usually followed by peers, or even by teachers. Consequently, they are perceived as different from others, usually in a negative manner. Unless they are strong individuals who receive support from other aspects of their lives, such as home, they sometimes shelter their egos by attempting to become conforming thinkers, following the same path as everyone else, withdrawing mentally from a frustrating environment and becoming the quiet student in the corner. Some may rebel in the classroom setting and achieve the questionable status of troublemaker.

Different Time/Space Perspective

Gifted individuals often have a perception of time and space which sometimes conflicts with that held by most people. A commonly stated characteristic of giftedness is the ability to accomplish tasks quickly, but this is not always true. Sometimes

a gifted pupil will take longer to complete a task than other students. Partly because of the ability to see relationships and the desire to accomplish a goal well, a gifted pupil may require much more time than other students to delve into research and associated ideas, to organize the array of information and thoughts, and to compose the final draft of a presentation. This trait may lead to conflict with the schedule established for completion of assignments. Consequently, the pupil is either frustrated in the attempt to live up to individual standards or penalized for tardiness.

Jeff was a very good student but he seemed unable to submit papers on time. For example, one paper was a week late because he had to "get it right" before submitting it. When it was a week late, however, he felt he should make it better to compensate for the tardiness. Then it was two weeks late so Jeff decided it had to be even better, making it three weeks late. Finally the teacher said that he should just turn it in as is. Jeff sensed that somehow he had to balance quality and quantity and still meet the "deadline" while remaining satisfied with the effort and the product. Because of his own high standards, the task was not a simple matter of dashing it off and handing it in, as it was for some of the other students.

The desire to delve into a subject may make an assignment seem trivial to a gifted student who will, consequently, have difficulty completing a relatively simple task.

When given the assignment to write a 500-word theme about a novel, Carlos confided that he was having trouble because he couldn't think of anything "small" to say about the work.

Organization of material may also present problems for the gifted student in the classroom. For most of us the traditional pattern of organizing notes and references is helpful, because we may have difficulty keeping track of ideas in the absence of an observable system of organization. The gifted individual, on the other hand, often establishes a unique pattern of organization that makes sense only to that person, if it makes sense at all. To an outside observer the arrangement of materials appears as disorganization. This "creative clutter," however, is necessary for that person, as the various associations among the seemingly different items are an integral part of the organization.

Rose's desk is a mess by most standards. However, everything fits into an elaborate individual filing system; for whenever she wants a note card, book, or reference, Rose can reach into this clutter and produce it immediately. It may not fit the teacher's idea or method of organization, but it works for Rose. Whenever she is forced to "clean it up," she loses track of things for days.

In some classrooms such highly individual arrangements of materials can create problems if the gifted individual is forced to follow the same "tried and true" method of organization as everyone else or is marked down accordingly. Once again the assumption behind such attitudes and practices may be that someone else, "an expert," knows better than the individual student what is "best" for the student. The process of self-discovery which results from the individual's direct experience is denied as the acceptance of authority is reinforced. To be sure, with some gifted children the "creative clutter" is nothing more than a mess. These students can profit by examining several methods of organization and selecting or developing the one best suited to their personalities and purposes.

Variety of Valid Alternatives

Charles Pulvino of the University of Wisconsin has observed that one of the major problems confronting gifted individuals in high school is that of choice. For most of us the areas in which we may focus our future efforts are limited since our talents and energies allow us to excel in only one or two fields. For the gifted individual, however, many more paths are open as the potential for superior achievement in any of them is real. While many may consider this situation a benefit, it often creates problems because of the variety of pressures to select a single path early in one's career. Faced with pressures from many fronts (from society to contribute to the welfare of all, from academia to excel on a theoretical level, from parents and peers to advance financially, and from self to achieve satisfaction), gifted individuals often find themselves in a dilemma which creates severe internal conflicts.

In this age of specialization, contemporary society does not place a high value on the Renaissance individual, one who excels at many tasks and specializes in more than one throughout a lifetime. The individual who selects an occupation early and stays with it until retirement tends to be rewarded. The indi-

vidual who moves from one job to another may be viewed as "shiftless" and may have to begin rebuilding financial security with each move. The short poem "Curiosity" by Alistair Reid (10) embodies some of the societal attitudes toward these "wandering" and "irresponsible" but curious individuals and provides a hint as to why they behave as they do.

Occasionally, when the gifted are forced to limit their scope and live within the confines of a narrow selection of alternatives, they are made to feel unacceptable as persons. This is particularly true of individuals in groups for which society holds role expectations. Gifted girls within our culture, for example, are especially susceptible to such pressure.

Maria has always had a variety of paths open to her but has faced continual internal conflicts because of these alternatives. As a youth she was selected for a special university program for students gifted in creative writing. At fifteen she was chosen to join the opera workshop at a nearby college and consequently received a scholarship for voice. Her family felt this was not a wise decision financially, however, so Maria went to a technological institute where she excelled as an engineering student. This field was also thwarted when her counselor advised her against pursuing engineering, as the field was closed to women and there was already a surplus of engineers. From there Maria went to a state university where she majored in general education with a minor in premed. Again she excelled in several areas, especially biology and eugenics. Now, many avenues were open to her. Unable to settle on any one, she married, postponing decisions about her own career, which left her with deep feelings of lack of fulfillment. She therefore began to work in education, with special emphasis in psychotherapy. Within this general field she has moved several times. In addition, she has become particularly adept in carpentry, cabinetry, painting, ceramics, sewing, and writing. Even with the career in education guaranteed, however, Maria has felt frustration because of a belief that she is obligated to work only in education; and she has felt guilty about moving or even considering moving into other areas in which she is equally gifted.

Diverse Responses

Not only are gifted individuals able to perceive a great deal of their environment and to draw from it a wide variety of associations, they are also able to express their perceptions and understandings to others in a wide variety of ways. Most schools accept only one mode of response: print. As a rule high academic value is not placed on film, dance, art, or drama as expressions of un-

understanding of concepts. Test-taking and essay-writing may provide teachers with the bulk of their perceptions of student ability. The student may be allowed to express ideas and feelings through another medium such as film, but ultimately the student is required to respond in print in order to receive adequate evaluation and subsequent academic approval. A course which allows the use of nonprint material for evaluation would not often be considered a "solid," academic course. Gifted students who may find other media more appropriate for presentations of their understandings are therefore penalized by the academic world.

Emily, a tenth grader who was particularly interested in mime, asked if she could do a special, self-initiated study of it as part of her work in English class. The teacher granted her request. While the rest of the class was reading *Macbeth*, Emily studied mime, not to avoid reading the play but as a positive alternative to it. After extensive reading and research, Emily went to a nearby elementary school where she taught mime to the children. The teacher gave her credit for her work, but he received considerable criticism from the rest of the faculty because Emily had not taken the test on *Macbeth*. Instead, she had performed in the elementary school, worked with the children, and documented the experience on slides and film.

Persistence

A major objective of most teachers is to motivate students to pursue academic goals. This objective is reflected in the 1978-79 National Council of Teachers of English publication *Classroom Practices in Teaching English*, subtitled *Activating the Passive Student*. Usually the effort to provide motivation extends for several weeks until the unit is complete and then teachers move to another topic. Teachers whose classes contain gifted and talented learners might perhaps perceive the problem as how to deactivate these students rather than to activate them. Once a gifted individual becomes involved in a particular area, interest and singular pursuit of knowledge in that area are often long-lived. It has also been the authors' experience that once a person becomes convinced that learning is his/her own responsibility, a teacher would not dare assign the amount of work voluntarily attempted by that learner. While initially quite gratifying, such persistence may frustrate the teacher who wants the individual to stay with the class and become equally involved in other units. When teacher frustration becomes too great, the student is persuaded to abandon the topic and follow the rest of the class.

Another area in which persistence may cause problems for the gifted individual is in the daily class discussion. In most such instances, specific answers to questions are expected and a limited amount of time is available for digressions from the expected answers. Gifted individuals, however, have the ability to see beyond the superficial answers and often want to move the discussion to these other areas. Often such behavior may be viewed as disruptive because it detracts from the intended line of questioning.

I stopped asking questions in my calculus class since I obviously annoyed the professor. I kept seeing new connections that he hadn't explained and didn't intend to. The nonmath lovers resented my questions, too, since they didn't want to be further confused.

Even the gifted student's direct answer may cause problems, as the student may have a special insight or additional knowledge which produces an alternative answer to the one wanted and expected. Most teachers will allow the individual to state the alternative answer, but few will permit the persistent delving into the alternate route because class time will not accommodate such digression and few other students will be able to follow the discussion. The teacher, too, may be unable to follow the direction suggested by the digression. Such a situation may also pose a significant threat to the self-confidence of the teacher. Once again, the gifted individual is frustrated and penalized for the very characteristics that indicate exceptional ability.

Further, intellectually gifted students may be perceived as rude or obnoxious because of their persistence and tenacity—the line between persistence and insubordination being sometimes difficult to determine. It is well to keep in mind, however, that rudeness is a description of the way certain behaviors are perceived by a specific observer, which involves a value judgment about those behaviors. Such judgment often has serious implications for the relationship between the observer and the person whose behavior has been labeled rude. By examining these characteristics, it is hoped that it will be realized that actions may reflect attitudes other than the superficial ones—that obnoxious behavior, for example, may actually stem from a real interest in an area, not from a desire to irritate or anger.

These and other problem-creating characteristics of gifted individuals may result in even more serious negative classroom behaviors, including antisocial acting out to achieve recognition; intentional failure to gain attention or to mask ability; deliberately careless or messy work; and an active distrust of teachers and other adults. This is certainly not to imply that all students who display unacceptable behaviors are necessarily gifted; rather, it is vital to look beyond the surface manifestation of the behavior to the underlying causes. When this is done, the cause may be found to be a frustration of superior abilities. If the negative behaviors are prolonged, they may cause additional problems in the future. For example, lack of challenging work in early grades may give rise to a careless attitude toward work and, in time, to an inability to perform to capacity when the work becomes more challenging.

Tad is content with slightly above-average grades with very little effort. Usually he begins and completes a project the night before it is due or studies for exams during the preceding class. This approach has been successful as he usually receives A's or B's for these efforts. Now, however, he is faced with more difficult classes and finds that he is unable to adapt his time to prepare adequately for tests and projects. Not only are his grades dropping drastically, but he is losing confidence in himself and becoming frustrated by the situation.

The feelings of rejection by peers and teachers sometimes create severe emotional problems in gifted individuals. When unable to achieve their potential in school, they may seek other outlets, some of which may be quite unacceptable to both school and society.

In the short story "The Substitute," Zenna Henderson (5) depicts a situation in which Keely, a disruptive student, continually antagonizes teachers and refuses to perform the tasks demanded of the class. The conflict is resolved when a "substitute" teacher recognizes that the gum and wires which cluttered his desk were really a sophisticated radio which permitted him to converse with extraterrestrial beings.

As attention is focused on individual behavior as a potential indication of gifted ability, we may be able to reexamine the rebellious student, the "far-out" student, the withdrawn student, the hyperactive student, and the daydreamer. Bill Romey, in *Consciousness and Creativity* (12), presents an interesting discussion of the function of daydreams in the educational process. A reexamination or review may show some of these unacceptable behaviors in a different light. They may be seen to be caused not by lack of ability, but by too much ability.

A Way of Perceiving

Persons are gifts wrapped!
Some are wrapped beautifully; they are very
attractive when I first see them.
Some come in ordinary wrapping paper.
Others have been mishandled in the mail.
Once in a while there is a special delivery!
Some persons are gifts which are very loosely
wrapped, not sealed.
Others are tightly wrapped, practically locked,
enigmas really, almost forbidding.
But the wrapping is not the gift!
It is easy to make this mistake.
It is very amusing when babies do it.
Sometimes the gift is very easy to open.
Sometimes I need others to help.
Is it because some are afraid?
Does it hurt to be known truly, honestly?
Maybe they have been opened before and thrown
away, discarded?
Maybe such a gift isn't for me, too good for me?
Maybe *I'm* not ready; *I'm* not open? *I'm* indifferent?
Maybe I don't recognize the gift, that it is for me?
Maybe I see this gift as a threat and not an invitation.
I am a person . . .
Therefore I am a gift, too.
Perhaps I have never accepted the gift that I am?

Anonymous

PROBLEMS OF DEFINITION

It is a mistake to become overly concerned with the definition of the gifted and talented until you have some idea of resources, program goals, and population with which you might work. At this point it is sufficient to establish a general definition and then refine it as the program develops.

In 1978, Congress passed a bill which among other things updated the definition of gifted and talented students. The revised definition stated in Public Law 95-561 of November 1, 1978, reads:

For the purpose of this part, the term gifted and talented children means 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 in 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 service or activities not ordinarily provided by the school.

This definition is a revision of the one presented in the U.S. Office of Education Report of 1972 in which six general areas for gifted and talented abilities were delineated. The earlier report suggested that a person who possesses superior ability in any of these general categories, either singly or in any combination, should be considered gifted. (1) The list offers teachers and administrators the following six areas of giftedness to explore in developing a program:

General Intellectual Ability. This category includes individuals who demonstrate characteristics such as intellectual curiosity, exceptional powers of observation, ability to abstract, a questioning attitude, and associative thinking skills.

Academic Talent. This area encompasses the excellent students, those who achieve high grades, who score very well on tests, and who demonstrate high ability in academic pursuits. Of course, some of these gifted students do not perform well in school but develop their academic skills outside school. Many schools have already developed programs for the academically gifted, including honors classes and advanced placement courses.

Creative and Productive Thinking Skills. Students with these abilities are often those who come up with original and divergent ideas. In addition, they have the ability to elaborate and develop their original ideas, as well as to realize many different ways of perceiving a single thought or topic. Such students are often overlooked in classrooms where emphasis is on assimilating a quantity of information and repeating predetermined answers.

Leadership. While many educators discuss this ability, few have actually been able to describe it adequately for classroom use. On the one hand, it includes those students who emerge as social or academic leaders in a group. However, leadership should also encompass another trait: the willingness to accept responsibility for one's actions and to have a feeling of control over one's life and decisions. In most programs for gifted students we have found the second trait, personal leadership, to be the more important of the two. Leadership involves use of power, productive interaction with others, and self-control.

Visual and Performing Arts. This area relates to activities such as painting, sculpting, drawing, filmmaking, dancing, singing, playing instruments, and performing dramatically. Individuals with superior abilities in these fields seldom have the opportunity to demonstrate their giftedness in most academic classes as the behaviors which reflect such abilities are usually relegated to outside-of-class work and then encouraged only if academic requirements have been fulfilled. Currently, however, some educators and programs, such as the Education Center for the Arts in New Haven (Connecticut) and the Houston (Texas) School for the Visual and Performing Arts, are stressing this area of giftedness.

Psychomotor Skills. Although this category was not specifically referred to in the 1978 definition, the earlier report recognized its importance. We also believe it is an area worthy of special mention. Besides encompassing athletic prowess, as reflected in many sports programs, it includes superior use of fine motor skills as found in exceptional woodworking, crafts, drafting, and mechanical abilities. In most schools these abilities are usually developed under vocational education where superior performances by stu-

dents in these areas are seldom acknowledged as gifted. In fact, referral to such programs is often considered a viable option for somewhat disabled learners. An exception to this practice is the woodworking program at the Hill School in Pottstown, Pennsylvania. (7)

The foregoing list gives a broad view of areas where gifted individuals may be sought out and helped to develop their abilities. It would be a mistake, however, to accept this list as the definition of gifted and talented for a particular program. Such a definition should evolve from a discussion of the goals of the program and the characteristics of the specific population for which the program is designed.

While we tend to use the terms "gifted" and "talented" as one area of abilities, some teachers raise the question about the distinction between giftedness and talent. Both, indeed, reflect superior abilities. However, some have differentiated between these two terms. Virginia Erlich, for example, has made the following delineation:

By giftedness we mean intellectual prowess such as is evidenced by scores on conventional intelligence tests, and which is characterized by an ability to see and group relationships, proficiency in verbal abstract thought, persistence, intellectual curiosity, versatility and adaptability and creative thought.

By talent we mean any specialized skill or ability in a particular field of endeavor, such as the creative and performing arts or sports, where the behavior involves some physical component of muscular coordination, visual acuity, manual dexterity, etc. (1)

Ann Lamkins separates the concept of gifted into three categories: gifted, talented, and potentially gifted.

Gifted students are those who are consistently able to apply their highly developed skills and knowledge, as well as their personal characteristics, to creative problem-finding/solving in a particular area of human endeavor such as academics, the visual/performing arts, or psychomotor activities. The accomplishments of the gifted are possible because they have exceptional aptitude for achievement in one or more areas of human endeavor and are able to develop them fully

because of personal characteristics. They also apply themselves to the development and completion of their creative ideas. They may be referred to as "outstanding," "exceptional," or "very creative" students, because of the quality and consistency of their performances and products.

Talented students are those who consistently demonstrate high performance with fundamental skills and knowledge as well as personal characteristics. Teachers usually enjoy these students. They like school, are very cooperative, practice their lessons, and do their assignments. They can assimilate and reproduce complex ideas and concepts, but *they do not create their own*. In other words, they are primarily consumers and transmitters of knowledge. The accomplishments of talented children are possible because they are able to apply their personal characteristics to the development of aptitudes. The *academically* talented are often referred to as "bright," "very capable," "excellent students," or "high achievers," and score at or above the 90th percentile on achievement tests in a particular area. They may or may not score exceptionally high on intelligence measures.

Students who show potential for functioning at high levels of performance in . . . fundamental skills and knowledge and . . . creative problem-finding/solving skills, but express personal growth characteristics in the school setting in negative ways, have potential which lies in the development of psychosocial factors. The school setting, including teachers' attitudes, values, and instructional methodologies must be carefully examined and perhaps modified if this type of potentially gifted student is to be identified and programmed.

(6)

Embedded in these distinctions and definitions are several different philosophies and attitudes toward the gifted and toward ways of meeting their needs. While all such definitions offer a great deal for discussion, teachers or school systems should not accept any of them without first examining their own unique situations and philosophies.

In this work the term "gifted" is used to refer to both the gifted and the talented, if such a distinction does indeed exist. Periodically, both terms are used to reinforce the inclusion of all these individuals with superior abilities. In addition, we be-

lieve that the separation between the gifted and the nongifted is not a clearly defined line. Rather, there is a continuum of abilities and the "breakoff" point between gifted and nongifted is very nebulous—so nebulous, in fact, that many "nongifted" individuals cross into the gifted range intermittently in particular areas when their interests are sufficiently aroused.

For this reason, program developers and teachers are cautioned against too rigid a cutoff point or too narrow a definition of gifted. As the program develops and the population becomes more focused, a definition which describes the particular students for the program may be formulated. If a committee becomes too concerned with a precise definition at the outset of program development, a great deal of time may be spent on discussions which may not have any relevance to the program once some of the realities are observed. For example, if a committee decides to define as gifted those individuals who show exceptional ability in dance and then finds very little support and few resources in the community for such activities, the definition will have to be modified anyway. Developers should have a general understanding of gifted and talented, and gather information about the values and goals of the community before defining "gifted." Then, as the components of the program develop, an accurate, meaningful definition may be derived.

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SUPPLEMENTARY MATERIALS

LISTS OF CHARACTERISTICS

The following lists of characteristics of gifted and talented individuals have been compiled by different educators and associations. These lists are representative of many that are available from associations for educating the gifted and talented, from educators in the field of teaching the gifted and talented, and from school systems that have developed programs for the gifted and talented. They are not necessarily the best descriptions, but they touch upon a wide variety of characteristics that are usually associated with gifted and talented individuals. While the lists provide some general indications of potential ability, the ultimate focus, however, should be on the individual student.

These lists may be used in at least two ways: (1) to describe general characteristics which can be applied to particular situations, or (2) to expand perceptions of characteristics of gifted and talented students after carefully looking at specific students in a particular school.

Characteristics of Creative-Gifted Children*

THEY—

1. Are curious
2. Have a large vocabulary
3. Have long memories
4. Sometimes learn to read alone
5. Have a keen sense of time, keep track of the date
6. Are persistent
7. Like to collect things
8. Are independent
9. Are healthy and well coordinated, but some may be delicate
10. May be bigger and stronger than average
11. Sustain interest in one or more fields over the years
12. Initiate their own activities
13. Develop earlier, sitting up, walking, talking
14. Learn easily
15. Have a keen sense of humor
16. Enjoy complicated games
17. Are creative and imaginative
18. Are interested and concerned about world problems
19. Analyze themselves, are often self-critical
20. Like older children when very young
21. Are original
22. Set high goals and ideals
23. Are leaders
24. Have talent(s) in art, music, writing, drama, dance
25. Use scientific methods of research
26. See relationships and draw sound generalizations
27. Produce work which is fresh, vital, and unique
28. Create new ideas, substances, and processes
29. Invent and build new mechanical devices
30. Often run counter to tradition
31. Continually question the status quo
32. Do the unexpected
33. Apply learning from one situation to different ones
34. Problem solve on a superior level, divergently, innovatively
35. May appear different
36. Enjoy reading, especially biography and autobiography

* By Ann Fabe Isaacs, National Association for Creative Children and Adults, 1976.

Some General Characteristics of Gifted Children*

The gifted child is likely to possess the following abilities :

1. To read earlier and with greater comprehension of nuances in the language.
2. To learn basic skills better. The gifted child usually learns them faster and needs less practice. Overlearning can lead to boredom, cessation of motivation, and the commission of careless errors.
3. To make abstractions when other children at the same age level cannot.
4. To delve into some interests beyond the usual limitations of childhood.
5. To comprehend, with almost nonverbal cues, implications which other children need to have "spelled out" for them.
6. To take direction independently at an earlier stage in life and to assume responsibility more naturally.
7. To maintain much longer concentration periods.
8. To express thoughts readily and to communicate with clarity in one or more areas of talent, whether verbal, numerical, aptitudinal or affective.
9. To read widely, quickly and intensely in one subject or in many areas.
10. To expend seemingly limitless energy.
11. To manifest creative and original verbal or motor responses.
12. To demonstrate a more complex processing of information than the average child of the same age.
13. To respond and relate well to peers, parents, teachers, and adults who likewise function easily in the higher-level thinking processes.
14. To have many projects going, particularly at home, so that the talented child is either busily occupied or looking for something to do.
15. To assume leadership roles because the innate sense of justice that is often noticeable in gifted children and youth gives them strength to which other young people respond.

* By Paul Plowman and others, California State Department of Education, 1971.

Behaviors in Six Talent Areas*

Convergent Thinking and Behavior

Usually responds more quickly and appropriately to questions than others his/her age.

Usually responds more quickly and appropriately than peers in new situations.

Asks questions relative to the topic or subject under discussion.

Usually selects the best course of action, the preferred outcome, or the most accurate response given several alternatives.

Sometimes re-defines a problem, a situation, or a statement made by someone else.

Sometimes determines what should be done having previously learned the appropriate procedure for achievement of a goal or task.

After considering a problem sometimes organizes activities to solve the problem.

Has on occasion given directions to others and has also written or told the procedures for performing a task.

Demonstrates through discussion, or in writing, an understanding of limitations or constraints that relate to a given problem or situation.

Has on occasion appropriately explained the reasons for making a given choice or acting a certain way.

Divergent/Creative Thinking and Behavior

Generates many ideas.

Plays with ideas and is willing to go beyond the usual or known.

Often establishes new relationships between previously unrelated objects or ideas.

Is not easily discouraged by setbacks, but will adapt and continue working on a task.

Demonstrates the ability to express ideas through many forms of communication (e.g., speaking, writing, drawing, and acting).

Understands and appreciates the humor of others and displays a sense of humor.

Often initiates learning activities (a self-starter).

Often supports an opinion or solution contrary to that selected by others (parents, teachers, peers) and ably defends his/her position.

Often values the processes of discovery and creation as much as the end product.

Relies on self-evaluation and self-support as well as evaluation and support from others.

* From "Talent Category Explanation Sheet" by Robert A. Male, Associate Director, GIFTS (Guidance Institute for Talented Students), University of Wisconsin-Madison, 1979.

Goal-Related Thinking and Behavior

Plans ahead by having on hand materials needed to undertake specific activities.

Has demonstrated that he/she can state what needs to be done first, second, and so on when undertaking an activity or project.

Has demonstrated the ability to define the final goal or outcome of an activity or project.

Has stated a planned course of action and acted according to the plan.

Demonstrates his/her consideration of one's abilities, time, and personal limitations when making plans.

Has identified and stated personal qualities and talents which represent strengths and limitations relative to a specific activity.

Has, when acting according to a plan, adapted it and his/her behaviors to meet changing conditions.

Has on occasion identified and stated possible contributions of others in a proposed group activity.

Has demonstrated the ability to state and define his/her own goals and priorities and to understand the goals and priorities of others even when not the same as his/her own.

Has shown that he/she can evaluate the results of following a plan by the contributions of others as well as his/her own, and the value of the plan itself.

Social Skills and Behavior

Often relates well with older children and adults.

Acknowledges the rights of others.

Values the ideas of teachers or parents.

Values the ideas of peers.

Likes to share experiences with peers.

Understands peers' humor and displays his/her own sense of humor.

Humor is understood by peers.

Ideas are respected by peers.

Demonstrates independent action which is accepted and understood by peers.

Is looked to by others for leadership.

Physical Skills and Behavior

Learns a physical skill more quickly and correctly than peers.

Is able to integrate newly learned physical skills into his/her repertoire more easily and quickly than peers.

Accurately identifies his/her physical abilities and limitations.

Physically adapts more easily than his/her peers to unanticipated circumstances or events.

Often experiments with previously learned physical skills in order to expand upon them.

Is not easily discouraged by setbacks but will adapt and continue working on physical tasks.

Accurately describes and assesses his/her own physical accomplishments and the accomplishments of others.

Has successfully taught others how to perform physical activities.

Evaluates his/her performance against an internal standard of excellence as well as established external criteria

Demonstrates justifiable confidence in his/her physical abilities and is recognized by others as possessing superior physical abilities.

Affective Thinking and Behavior

Has shown more interest than peers in understanding self.

Has shown more of an interest than peers in understanding the attitudes and feelings of others.

Has shown more interest than peers in understanding social issues.

Communicates thoughts and feelings more easily than peers.

Recognizes and discusses more effectively than peers the similarities and differences between his/her perceptions and those of others.

Has identified certain social and interpersonal issues as important to himself/herself.

Sometimes discusses social issues with informed others.

Understands the values underlying the social issues which interest him/her.

Demonstrates a consistency in social behaviors and attitude which reflects an internalized value system.

Has modified his/her value system or philosophy based on learning.

ACTIVITIES FOR TEACHERS

The following activities have been constructed to help teachers explore the underlying issues to be considered when examining characteristics of gifted individuals. Starting with an exercise to encourage insights, the activities continue through a series of exercises to develop self-awareness, followed by a general discussion of the definition of the term "gifted," and culminate in several worksheets to assist teachers in considering students for a specific program.

1. RIPPLES

When a pebble, heavy object, or sometimes a new idea is thrown or dropped into a quiet pool, concentric waves result which reach out ever wider and wider. Sometimes such a single thought or question may summarize a theory, clarify a thought, or provide a new insight into a complex issue. The following comments are presented, not to provide answers, but to generate ripples for which we do not presume to know the boundaries.

The individual differences among the children are so great that we have become uncomfortable about any generalizations about what "gifted children" are like. (Jackson and Robinson 1977)

... the creative syndrome is really a set of personality characteristics distinguished by a strong self-concept that pays little attention to the academic and social sanctions that force most of us to not use all our skills for fear of social disapproval. (Gallagher, *Teaching the Gifted Child* [Allyn and Bacon], 1975)

A teacher of gifted learners may learn as much from the students as the students learn from the teacher.

It shouldn't hurt to be a kid.

The talented do what they can and the gifted do what they must.
(Bill, a gifted student)

Add some of your own ripples.

2. SELF-AWARENESS

The purpose of these activities is to examine your own attitudes toward and relationship with gifted students. Be honest with yourself.

2.1 Check the characteristics in the following list* which you prefer students to exhibit in class and cross out those which you do not prefer.

- | | |
|---|--|
| _____ Adventurous | _____ Never bored |
| _____ Affectionate | _____ Negativistic |
| _____ Altruistic | _____ Obedient |
| _____ Always asking questions | _____ Persistent |
| _____ Attempts difficult jobs | _____ Popular, well liked by peers |
| _____ A self-starter | _____ Prefers complex tasks |
| _____ A good guesser | _____ Physically strong |
| _____ Bashful | _____ Quiet |
| _____ Becomes preoccupied with tasks | _____ Receptive to ideas of others |
| _____ Conforming | _____ Regresses occasionally (playful, childish) |
| _____ Considerate of others | _____ Reserved |
| _____ Courageous in conviction | _____ Remembers well |
| _____ Courteous | _____ Self-confident |
| _____ Competitive | _____ Self-assertive |
| _____ Critical of others | _____ Self-sufficient |
| _____ Curious | _____ Sense of humor |
| _____ Desires to excel | _____ Sense of beauty |
| _____ Determination | _____ Sincere |
| _____ Domineering | _____ Spirited in disagreement |
| _____ Disturbs procedures or organization | _____ Strives for distant goals |
| _____ Does work on time | _____ Stubborn |
| _____ Emotional | _____ Timid |
| _____ Emotionally sensitive | _____ Thorough |
| _____ Energetic | _____ Talkative |
| _____ Fault-finding | _____ Unsophisticated |
| _____ Haughty and self-satisfied | _____ Unwilling to accept things on mere say-so |
| _____ Healthy | _____ Versatile |
| _____ Independent in judgment | _____ Visionary |
| _____ Independent in thinking | _____ Willing to take risks |
| _____ Industrious | _____ Willing to accept judgments of authorities |
| _____ Likes to work alone | |
| _____ Intuitive | |

* From *Gifted Children in the Classroom* by E. Paul Torrance (New York: Macmillan, 1965).

- 2.2 Compare the characteristics you checked with other lists of characteristics of gifted and talented.
- 2.3 Select a student who has not performed well in your class and ask him/her about activities or interests outside of school. When you find an area of interest, ask the student to teach you more about it. This would be especially insightful if done with students from cultures different from yours.

3. YOUR SCHOOL

The purpose of this activity is to focus attention on the general attitude of teachers toward their students and to consider the implications these attitudes may have on gifted and talented individuals in the school.

- 3.1 Following are descriptions of five students.* Which student would be favored by most of the teachers in your school? Rank them from most desirable to least desirable according to the preferences and attitudes you believe are held by other teachers in your school.

_____ Student 1. Affectionate, considerate of others, courteous, does work on time, industrious, obedient, remembers well, willing to accept judgments of his elders, not bashful, does not disturb existing organization and procedures, not talkative.

_____ Student 2. Considerate of others, a self-starter, courteous, strong determination, independent thinker, industrious, good sense of humor, sincere, not domineering, does not disturb existing organization and procedure, not timid or bashful, curious.

_____ Student 3. Courageous in convictions, curious, independent in thinking and judgment, becomes absorbed and preoccupied with tasks, intuitive, persistent, unwilling to accept things on mere say-so, willing to take risks, not willing to accept judgments of authorities.

_____ Student 4. Socially well adjusted, conforming to behavioral norms, willing to accept judgments of authorities, obedient, courteous, prompt in doing work, neat and orderly, reserved, popular, and well liked by peers.

_____ Student 5. Adventurous, attempts difficult tasks, curious, independent in judgment and thinking, industrious, self-confident, good sense of humor, sincere, not bashful or timid, not domineering, does not disturb existing organization and procedure.

- 3.2 Compare the characteristics of the most and least desirable students with lists of characteristics of gifted and talented students. Are the characteristics of the gifted students valued highly in your school?

* From *Gifted Children in the Classroom* by E. Paul Torrance (New York: Macmillan, 1965).

4. EXPLORING DEFINITIONS OF "GIFTED"

The purpose of this group activity is to explore various concepts and opinions about the gifted and talented. The concluding "definition" should not be considered final until other factors such as program goals and characteristics have been thoroughly discussed.

- 4.1 Say the word "gifted," and have each person write the first word or association that comes to mind.
- 4.2 Say the word "gifted" again, and have each person write another word or association that comes to mind.
- 4.3 Repeat this as often as possible over a three-minute period.
- 4.4 After the participants have completed the task, have them work in small groups to compare associations and to derive an initial definition of "gifted." These definitions may then be discussed by the full group.
- 4.5 Compare the group definitions with those others have derived (which follow). Any definition of gifted and talented carries with it implications for selection and program development. Some may call for extensive testing and selection, while others may look toward more inclusive procedures and open situations. Some may aim toward benefiting society, while others may look toward academic achievement as an end. As you read the following definitions, consider the various philosophies and attitudes underlying each one and their implications for selection and program.

DeHaan and Havighurst, in *Educating Gifted Children*, speak of gifted children as children who are superior in some ability that can make them outstanding contributors to the welfare and quality of living in society.

Implications: _____

Lewis Terman referred to gifted children as children having an IQ of 140 or above as measured by the Stanford-Binet Intelligence Scale.

Implications: _____

Joseph Renzulli, University of Connecticut at Storrs, states:

Giftedness consists of an interaction among three basic clusters of human traits—these clusters being above-average general abilities, high levels of task commitment, and high levels of creativity. Gifted and talented children are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Children who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs. (Renzulli, *Phi Delta Kappan*, November 1978)

Implications: _____

We learn through experience and experiencing, and no one teaches us anything. If the environment permits it, anyone can learn; and if the individual permits it, the environment will teach him everything it has to teach It is highly possible that what is called talented behavior is simply a greater individual capacity for experiencing. (Viola Spolin, in *Reach, Touch, and Teach* by Terry Borton [McGraw-Hill, 1970])

Implications: _____

5. IMPLEMENTATION

Before surveying the potential methods and procedures for identifying gifted and talented individuals, you should have a general idea of the characteristics of the population to be selected. These characteristics, however, should be related directly to the goals of the program you plan to develop. All the characteristics of gifted individuals may not be appropriate for your goals. Indeed, some may actually interfere with student success. Gifted individuals should not be forced into programs that are inappropriate for their needs. In such cases, other programs may need to be developed. The following activities are designed to help prioritize both goals and characteristics which you feel are important for success in your program.

Prioritizing Goals: On the following lines list those goals which you believe are most appropriate for your program (e.g., develop skills in analysis, synthesis, and evaluation). Do not worry about ordering them.

A _____
B _____
C _____
D _____
E _____
F _____
G _____
H _____
I _____

Now place the letters of each goal on an appropriate line in the following "pyramid."

_____	_____	_____	_____	_____
Greatest Need	Greater Need	Mid- Need	Smaller Need	Smallest Need

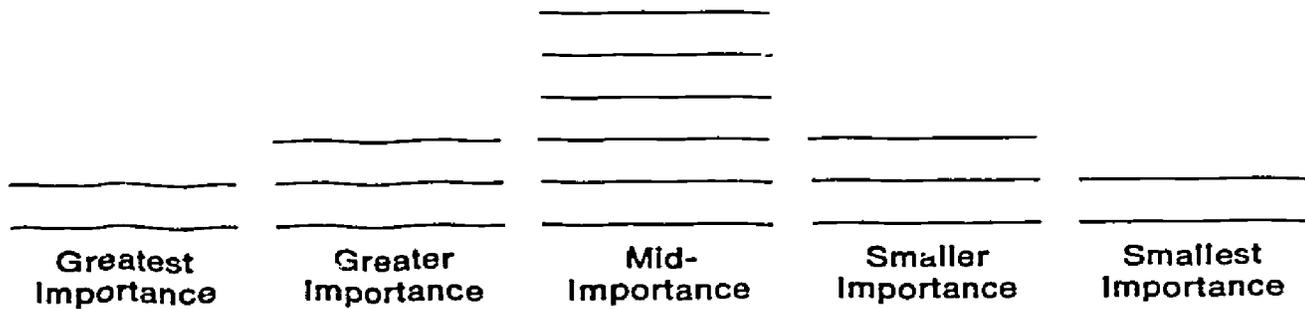
Followup: Share sorting with other members of the group. Discuss reasons for placement but do not force unanimous agreement. In the following "pyramid," place letters of goals to reflect general group feelings.

_____	_____	_____	_____	_____
Greatest Need	Greater Need	Mid- Need	Smaller Need	Smallest Need

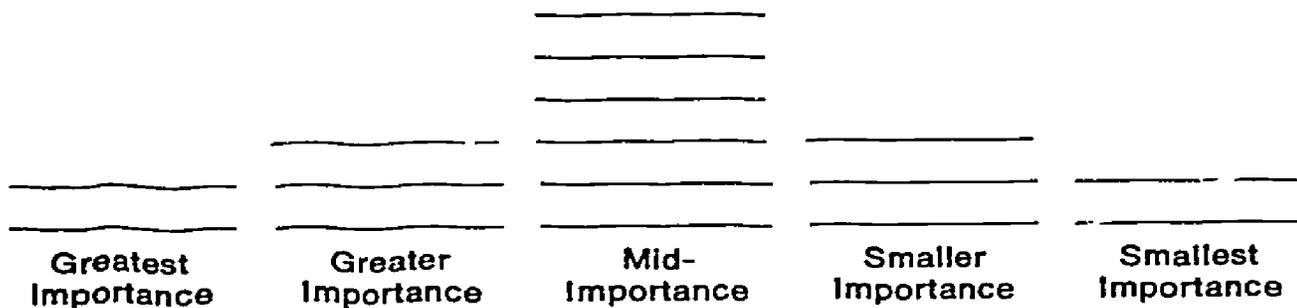
Prioritizing Characteristics: On the following lines list those characteristics which you feel are most appropriate for gifted students in your program (e.g., the student is able to see relationships among diverse ideas). Do not worry about ordering them.

A _____
 B _____
 C _____
 D _____
 E _____
 F _____
 G _____
 H _____
 I _____
 J _____
 K _____
 L _____
 M _____
 N _____
 O _____
 P _____

Now place the letters of each characteristic on an appropriate line in the following "pyramid."



Followup: Share sorting with other members of the group. Discuss reasons for placement, but do not force unanimous agreement. In the following "pyramid," place letters of characteristics to reflect general group feelings.



IDENTIFICATION

How do you know what someone is really like? If the person comes to trust you, to believe you can be of help, he/she may choose to share his/her real interests, feelings, beliefs, and knowledge with you. If the person fears that you do not have his/her best interests at heart, he/she may withdraw or even come to display opposite characteristics as a way of self-protection. Our constant search for "more objective measures," which seems to be based upon the assumption that we can, in fact, obtain precise and analytical measurements of creativity, may very well be moving in the opposite direction from establishing a relationship of trust.

In *Creative Life*, Clark E. Moustakas, a professor at the Merrill-Palmer Institute of Human Development and Family Life, observes, "Three methods or attitudes of modern living contribute to the deterioration of uniqueness and individuality and the development of mass behavior and mass identity: *analysis, diagnosis, and evaluation.*" (10:107) He continues, "A science that objectifies, evaluates, and puts people in categories eliminates the real persons. It sets up impersonal and unalterable standards and categories based on fragmented views of behavior." (10:109) As we approach the process of choosing identification procedures, it would be well to keep in mind that the further removed we are from the person, the greater the danger that what we identify may bear a closer resemblance to the mounted insect than to the living butterfly.

Before the 1950s most educators and school systems tended to follow Louis Terman's example and based most decisions about gifted individuals on IQ and scholastic achievement scores. Standardized group intelligence tests, such as the California Tests of Mental Maturity, were often used to determine IQ. In these tests educators were looking for exceptional ability in verbal or performance IQ or a combination of the two. (7) For final identification individual IQ tests such as the Wechsler scales (WISC) and the Stanford Binet were used. Most considered an IQ of 130 or above to fall in the gifted range.

With the greater emphasis on intellectual superiority at the end of the fifties and early sixties, some educators and researchers turned their attention away from IQ and achievement scores to other areas of giftedness. J. P. Guilford, with his analysis of the human intellect and resultant Structure of the Intellect model, provided a theoretical basis for examining other facets of the individual apart from IQ. (4a) This work was highly significant as it provided both the framework and the impetus for more research into areas of intelligence other than those measured by the IQ tests. Other researchers such as Getzels and Jackson, E. Paul Torrance, Joe Khatena, and Wallach and Kogan helped create and evaluate creativity tests and methods of bringing out creativity in students. As reported by Khatena (8), E. Paul Torrance has derived several areas of creative thinking ability among which are fluency—the ability to produce many ideas; flexibility—the ability to produce different kinds of ideas; originality—the ability to produce unusual ideas; elaboration—the ability to add details to an idea; synthesis—the ability to combine two or more figures into a related whole; and closure—the ability to delay completion of a task to allow for the mental leaps that make possible the creation of original ideas.

Furthermore, the humanistic feelings of the sixties prompted many to look for more equitable ways to identify gifted individuals from different cultures and those with language difficulties. These attempts resulted in the creation of instruments that do not assume that all share common cultural and language backgrounds. Researchers at this time also attempted to identify the gifted and talented through the use of biographical inventories, behavioral checklists and ratings, and parent nominations.

Although researchers have long considered these other identification procedures to be important, until recently most school systems have relied primarily on standardized tests and teacher nominations. With the rapid growth of interest in services for the mentally and physically handicapped during the sixties and early seventies, many schools shelved all identification procedures for the gifted. In 1972 the U.S. Office of Education Report showed a renewed federal interest in the gifted which began to have its effect on schools throughout the country. (2) This time many schools attempted to examine several areas of giftedness. Consequently, educators have begun to look for a variety of identification instruments that can help them locate a wide range of gifted and talented individuals.

When considering various procedures for selecting students for a program, the decision should be made as to whether the approach will be "exclusive" or "inclusive." With an "exclusive" stand, screening efforts are focused on ensuring that no students without gifted ability will be admitted to the program. The admission requirements will be exceptionally stringent, accepting only a small percentage quota, such as the top two percent. This means, however, that although the students in the program will probably be of superior ability, many other students who are equally gifted but who, for several reasons, did not perform well on the screening instruments will be overlooked. When an "inclusive" attitude toward screening is adopted, a wide variety of instruments and procedures with more flexible admission scores is selected. While this approach provides for the selection of names of the gifted students, some students who may not actually possess superior ability but who perform well on the screening instruments will also be admitted.

A program in rural Maine uses six ways of nominating gifted and talented students: parent nomination, questionnaires, teacher nomination, and self-nomination, the top ten percent of group IQ test, and the top ten percent of grades. Students identified by three of the six methods are automatically included, and those identified by one or two are considered on a case study basis. A conscious decision to be inclusive was made at the start of the program.

The decision to be exclusive or inclusive should be a conscious one because, ultimately, it will affect the program and curriculum. The exclusive attitude enables the teacher to construct activities aimed solely at students with superior abilities. A program of rapid acceleration exemplifies this approach. The inclusive attitude, however, calls for a more flexible curriculum with provision for students to enter and leave without penalty.

Before beginning a program for gifted students, the program developers have to define a population which will benefit from the program. The selection of the population involves identifying those students who possess the specific characteristics necessary for success in the particular program for the gifted envisioned for the particular school within the community. If all programs, communities, resources, and students were the same, the identification process would be routine. Each program, however, is different since all the other factors affecting the program goals—community, teachers, and resources—are unique.

Consequently, the identification process involves much more than merely selecting those students who score highest on a standardized test or who have the highest grades.

In general, the criteria for identification should not be specified until the goals of the program have been defined and the general program format has been established. Once these elements have been clarified, a screening committee can begin to examine various devices for identifying gifted characteristics in light of the goals and format of the particular program. In some instances, however, the school may discover a gifted student through a variety of methods and then design a program specifically to allow that student to develop his or her gifts. This approach is similar to the Individualized Educational Program (IEP) required for the handicapped under Public Law 94-142. While the methods and procedures to be described are aimed at the former type of program development, the school should always be open to the individualized approach where programs are developed for specific individuals and their unique characteristics.

Although some general tests of mental ability are already being used in many school districts, the screening committee should initially examine many different methods equally. The committee should (1) determine which devices measure the specific characteristics required by the program; (2) decide which of these methods would be the most feasible for the district in terms of facilities, budget, and personnel; and (3) establish an identification procedure, outlining the various steps to take to locate those students for whom the particular program is designed. (See also Ruth Martinson, *The Identification of the Gifted and Talented* (9).)

TYPES OF IDENTIFICATION INSTRUMENTS AND PROCEDURES

The discussion which follows describes various methods of screening and some of their limitations and advantages which should be taken into account.

Standardized Group Tests

Many systems use standardized group tests of IQ and achievement to select students for a gifted program because of their seeming objectivity and ease of administration. Such tests

do, however, contain some limitations which may invalidate their use as sole indicators of superior ability. First, as group tests they have been designed for the average student. Consequently, most of the questions are far below the challenging level of the superior student; the ceilings are too low to discriminate between the bright student and the gifted student. In addition, the questions are usually aimed at lower cognitive levels such as recall and comprehension rather than at the higher ones, such as synthesis and evaluation, which are more appropriate for the gifted.

Any instruments chosen for testing should include enough difficult items to allow for differentiation among children who are performing at the upper end of the scale. Bright children may perform like average children unless they are presented with sufficiently challenging material. (5)

Second, these tests achieve their "objectivity" by limiting responses to selection of "correct" answers chosen from various alternatives. One of the characteristics of many gifted individuals is the ability to see beyond the obvious answer and recognize situations in which a seemingly "wrong" answer may indeed be "correct." These students are often confused by the limited areas of responses granted by the group tests.

When Joseph took the IQ test, he was puzzled by several questions since many of the answers seemed correct to him and he could select only one per question. One question, for example, showed a man playing basketball and asked if this were work or play. While many students could easily respond "play," Joseph had difficulty as he realized that for a professional basketball player this was "work" rather than play.

Third, most of these tests, especially after third grade, rely heavily on the printed word and standard English. Students who have reading problems or who do not share the same cultural backgrounds as those for whom the test was designed may not perform well. Many gifted students are overlooked because they fall into either or both of these groups.

In an extensive investigation of the comparable effectiveness of several methods of identifying gifted students, Pagnato and Birch found that group IQ tests failed to identify nearly fifty percent of the students who scored above 125 on an individual IQ test. (11) If the identification committee had used a score of 125 or better on a group IQ test as a basis for selecting students

for a program, the committee would have missed approximately half of the students who achieved that score or better on an individualized IQ test. While many gifted students would have been included in the program, nearly half of the gifted students in the school would have been excluded.

A dramatic example is provided by Keith. As a six-year-old first grade student, he scored 98 on a group IQ test, 170 on an individual test, and at ceiling on a math reasoning test.

A revealing account of the power of IQ scores in the minds of people in spite of a specific attempt to discount their validity may be found in "Teachers Don't Want to Be Labeled" by Harry W. Forgon. (3)

Culture Fair Tests

Many have criticized standardized tests for being culturally biased. Most such tests assume a common cultural background in terms of associations, experiences, and verbal facility with the English language as spoken by the majority of students in the United States. While any test will probably contain items with particular cultural associations or biases, many have found that individuals from minority groups with cultural backgrounds different from the majority fare better on nonverbal tests. (14) Consequently, some schools with large minority populations have used culture fair tests which rely heavily on nonverbal items rather than on verbal questions and responses. The Columbia Tests of Mental Maturity, for example, require the individual to select appropriate responses from several figural items. The individual's response is nonverbal, as are the items in the questions. Torrance has found (15) that many creativity tests because of their nonverbal nature are also indicators of gifted ability in individuals from minority groups.

Creativity Tests

If a school is planning a program to promote creativity in gifted individuals, the tests mentioned previously may perhaps be inappropriate since they fail to indicate traits commonly associated with creativity. Indeed, these tests often penalize such traits by requiring a single, correct answer. Currently the most widely used instruments for identifying creatively gifted indi-

viduals are the Torrance Tests of Creative Thinking (1974). Looking for fluency, flexibility, originality, and elaboration skills, the items consist mostly of open-ended questions or task completion exercises. Although some studies have found high correlations between the Torrance Tests and IQ tests (Torrance 1966), with gifted individuals the correlations have been low (Dellas and Gaier 1976), indicating that the Torrance tests may measure areas different from those measured by IQ tests. (1) Several other tests have also been developed to measure aspects of creativity, many of which are cited by Carolyn Callahan. (1)

In addition to tests, however, developers may also look at examples of student creativity. This may be accomplished by having individuals perform creative tasks within their immediate environments, either school or neighborhood, or by examining student products. This personal approach may be more appropriate for students in cultures different from the majority and for programs which focus on particular kinds of creativity, such as creative writing. When evaluating these creative products, developers should be sure that the evaluator has both expertise in the specific area of creativity and familiarity with the culture which the individual represents.

Individual IQ Tests

Although they focus on general intellectual ability, only one of several areas of giftedness, individual IQ tests, such as the Stanford-Binet or the WISC-R, are usually the final screening instrument in most schools. Implicit in the use of the individual IQ test as the *final* screening instrument is the assumption that it does, in fact, identify with precision and accuracy who is and who is not "gifted." Since such tests are administered individually, the examiner can note quality of responses as well as correctness. In addition, the interview atmosphere of the testing situation also allows the examiner to make the individual more comfortable and less threatened by the testing situation.

Individual IQ tests, however, and even creativity tests, like the group tests are only reflections of what the individual is capable of producing. All represent an attempt to quantify through paper and pencil efforts the potential quality of a student's ability. In order to determine an individual's ability or potential, a broader perspective should be obtained, one which views the actual works the student produces in specific areas. Some of the following procedures may allow this perspective.

Behavior Rating Scales

In an effort to focus attention directly on the individual student, some educators have constructed behavior rating scales or checklists of behaviors indicative of gifted ability in specific areas. Instruments such as the "Scales for Rating the Behavioral Characteristics of Superior Students," sample items from which appear in Supplementary Materials, list specific characteristics and illustrative behaviors of gifted individuals. (13a) The task of an observer using rating scales is to check presence or absence of a particular behavior in an individual, rate the strength of the behavior, or list individuals from a group who possess the particular characteristics under consideration. While these scales do allow the observer to view the individual directly without the intermediary of a test, they also present several difficulties. (See Supplementary Materials.)

The first difficulty when using the scales is that many observers have different interpretations of the various characteristics and place different emphases on behaviors indicative of the particular characteristic. The question of emphasis causes problems with interpreting presence or absence of a characteristic and even more with interpreting strength of a characteristic.

After using a well-known rating scale for identifying gifted individuals for a particular program, the teachers found that not only had they interpreted the ratings differently, but they had even interpreted the indicative behaviors differently. They could not, for example, agree on the difference between a ranking of 2 or 4 on "persistent in reaching a goal."

A second difficulty lies in the time individual ratings require of teachers. If asked to rate each of one hundred thirty students on each of seventy-five characteristics, the teacher may resent the time and effort required to accomplish the task. This resentment may cause problems with both the rankings of the ratings of individual students and with future support of the program. One way to alleviate this potential source of difficulty would be to involve all teachers in a discussion of the identification, especially ratings of characteristics, before they are asked to perform the task. Another way to reduce the burden would be to have teachers discuss the most important characteristics and indicative behaviors and then list only those students who demonstrate those particular characteristics most frequently.

Teacher Nomination

Perhaps the most prevalent method of identifying gifted individuals is to ask for teacher recommendations. This method, however, has been shown in research studies to be ineffective. In their study, Pagnato and Birch found that junior high school teachers not only failed to nominate over fifty percent of the gifted individuals in the school (11), but they also identified many average students as gifted. Jacobs's investigation of the ability of primary teachers to correctly identify gifted students in their classes was even more dismaying. He found that they were able to identify only ten percent of the gifted individuals who were indicated through the use of an individual IQ test. (6)

The failure of teachers to identify gifted individuals accurately may reflect their inability to recognize behaviors indicative of giftedness. Usually teachers tend to emphasize such behaviors as neatness, punctuality, answering correctly, and cooperation which are not necessarily traits of gifted individuals. As discussed previously, gifted individuals often possess characteristics which are in opposition to these behaviors. The divergent or associative thinker, for example, may make leaps in logic and provide an answer far beyond the particular response sought by the teacher; but, because of considerations of time and the interest of most of the other students, the teacher may be unable to pursue such an answer and may therefore regard it as incorrect. The gifted student may thus receive poor recommendations and average or even poor grades.

Teacher nomination, however, need not be inadequate. When provided with guidelines and in-service work on the characteristics and behaviors of gifted individuals, teachers become much more accurate in their perceptions. (4) In-service training in the characteristics of gifted individuals is valuable not only for the identification of students for a gifted program, but also as an aid for the individual classroom teacher. An increased sensitivity to the characteristics and behaviors of gifted individuals enables the teacher to become more aware of the potential of all students.

Transcripts

Along with teacher nomination, the student's scholastic record is often used to aid in the identification process. Grades can be as misleading as they are helpful, however. As mentioned previously, when evaluation occurs the relationship between the per-

son making the evaluation and the person being evaluated is often crucial. Most transcripts have no way of elaborating upon relationships; they merely present a symbol which is intended to represent certain levels of competency. In addition, grades often reflect perceptions of appropriate classroom behavior rather than actual ability. In the case of the highly gifted student who is frustrated and bored, several poor or failing grades on a transcript might not be surprising to an evaluator who is familiar with negative behaviors of some gifted students.

Biographical Inventories

As part of an identification procedure, information should be gathered about the individual's interests and background outside school as well as performance within the classroom. Often gifted individuals display more of the superior abilities in extracurricular activities than they do in the classroom. Biographical and interest inventories can provide insights into these individuals which might otherwise be overlooked. Such inventories may be in the form of multiple-choice items, checklists, open-ended questions, or any combination. Since a general inventory can be valuable for all teachers, the screening committee might highlight those behaviors and interests which are felt to indicate success in the particular program. "Scores" can be derived from the inventory on the basis of appropriate responses to questions concerning behaviors and interests pertinent to the program envisioned. The Institute for Behavioral Research in Creativity in Salt Lake City found its own biographical inventory (see Supplementary Materials) was very effective in predicting students with high potential for academic talent, leadership ability, and artistic or musical talent. (16) In some parts of the country parents may consider certain questions on biographical inventories invasions of privacy. Consequently, the items should be carefully considered for appropriateness and value to the identification process. This situation will vary according to the local conditions and program.

Parent Recommendation

In addition to his consideration of primary teachers, Jacobs also evaluated the effectiveness of parents in identifying gifted children. He found that parents were able to select sixty-one percent of the gifted children and, in addition, showed less tendency than teachers to overestimate abilities. (6) This finding is not

surprising when we consider that parents observe children more frequently than teachers and in more relaxed, informal situations. Often gifted individuals display their true abilities under these circumstances, while in the classroom they may tend either to conform to the rest of the class or to fall into the category of "misfit."

Obtaining information from parents sometimes presents a problem for program developers because they do not wish to give the impression that all the children will be admitted to a particular program; nor do they want to incur the frustration and wrath of those parents whose children are not selected. One way to secure the necessary information without indicating admission to a program is to gather it as part of the routine for all instruction. This can be as a checklist of activities and interests or as a multiple-choice biographical inventory. Jackson and Robinson found that while checklists and multiple choices provided valuable information, supplementary anecdotes gave necessary insights into the quality of the behaviors demonstrated by the children. (5) For example, although several parents might indicate that their children read at an early age, a description of what was read, how it was read, and when it was read would be even more revealing. There is a difference between reading a picture book and reading the *Winnie the Pooh* series by age five. Such information would be valuable to all teachers and, at the same time, could be used to help select gifted individuals.

Peer Recommendation

Although not given enough importance by many, student evaluations can provide valuable insights into the abilities of their peers. Usually, the teacher's perception of student ability is limited to contact within the classroom and as an adult to a child. Student contact with classmates may allow for more demonstration of some of the characteristics previously discussed than may be shown in the classroom setting. Leadership ability, for example, may take a different form outside class from inside. Even general intellectual abilities may become more evident to classmates than to teachers since many gifted individuals are wary of demonstrating their abilities in the school setting.

In an effort to gather information about peer recommendations, one school presented each student with a list of questions such as "Whom would you ask for help on a composition?" Students were then asked to list three individuals in the class, as it

was believed that they might feel obligated to list their best friends first, regardless of ability. In reviewing the lists, the committee looked for repetition of names rather than just names of students who were listed first by peers.

RECOMMENDED PROCEDURES

Many researchers are finding that a combination of approaches appears to be the most effective method of identifying gifted and talented students. Renzulli and Smith compared a traditional approach comprised of group ability tests and individual IQ tests with a case study approach comprised of aptitude and/or achievement scores, ratings by past and/or present teachers, past performance, parent ratings, and self-ratings. (13) They found the case study method is generally superior to the traditional approach in identifying gifted students, especially among minority groups. In addition, they found this approach less costly and less time-consuming than the traditional method. While many would concur that the case study approach is more effective, they would be surprised at the finding that it is also more efficient.

Jackson and Robinson (5) provide additional guidance for identifying the gifted and talented, especially at the preschool level. First, they suggest that children be allowed several opportunities to demonstrate their intellectual and creative skills. Second, instead of taking an individual's average score across various instruments, as is often done, the identification committee should consider the child's best performance and include him or her in the program on that basis. Third, Jackson and Robinson found that parents' anecdotes of their children's behaviors may give more insight into early giftedness than testing situations or questionnaires and checklists. Finally, the researchers strongly suggest that any identification procedure be "tied to the program for which the children are being identified."

Pfleger, in his extensive report on the research and guidance laboratory at the University of Wisconsin, presents several premises for identification. He suggests that the identification procedure should contain a variety of techniques and should continue over a long time. He recommends that at least some of the identification techniques should be individualized, taking into account the cultural-experiential environment of the individual. Pfleger also suggests that the process requires systematic involvement of professionals who observe the individual directly and

understand her/his cultural background. To examine individual performance, both self-chosen and required efforts should be assessed. (12)

The identification procedure may be viewed as a two-stage process. The first stage consists of screening individuals through group tests, teacher nominations (by teachers trained in recognizing gifted individuals), peer recommendations, and other generally pertinent information geared to the specific kind of gifted program envisioned.

In the second stage, based on a student's best effort rather than an average of scores, the screening committee selects a smaller number of students for more individualized identification. Special consideration should be given those students on the fringe—those with culturally different backgrounds, language difficulties, and records of discontent. In the second screening stage individuals should be given several opportunities to demonstrate exceptional ability in the specific areas to be developed in the program. These opportunities may include biographical inventory, interviews, parental anecdotes, and examination of such student work as papers, paintings, films, or dramatizations.

When making final decisions for the program, the committee should try to include all students who might excel in it. Several considerations may help with this determination. First, admission into the program should be based on an indication of potential and "best" performances, not on an average of test scores or accomplishment. When teachers are asked to recommend students, they should be sure to discuss the indicative behaviors and the goals of the program. The instruments selected should have sufficiently high ceilings to allow gifted students room to excel. Many standardized tests, especially for lower grade levels, do not provide for these superior abilities. The final selection should be based on information gathered from a variety of sources which examine the characteristics pertinent to the specific program.

In addition to these program concerns, there are also several political considerations which may affect the program. Early in the process, a decision should be made regarding pressure from influential parents whose children do not belong in the program. Strong administrative support either way will be required as the teacher will not have the authority to stand alone. Also, the individual's right to privacy should always be respected. No questions should violate this right even indirectly. Questions concerning income, social status, and religion do not provide vital information for identification but do intrude.

The following material from the New York State Education Department provides nineteen detailed steps for establishing and implementing a general identification procedure. (10a)

Implementing An Identification Program

Task	Activity	Product	Resource
PHASE ONE: PLANNING			
1. Identify leadership	as determined by local district develop and understanding of gifted/ talented students and programs in general	one assigned person who has support of the superintendent and board of education, and others from the school and community to serve as a task group	
2. Conduct a needs assessment	survey student characteristics survey student interests survey curricular and extracurricular provisions/programs currently available within the school survey community interests and provisions for programs	assessment of local test scores and profiles of students' capabilities and achievements as indicated by intelligence and achievement test scores results of an interest survey assessment of local district provisions/ programs for gifted/ talented and degree of teacher interest and commitment assessment of community interest and possibilities for support of specific programs recommendation to maintain current provisions/programs, strengthen existing ones, or develop new options	subjective and objective information from teachers, counselors, psychologists, and administrators STUDENT INTEREST SURVEY teachers and administrators parents, members of the community and civic organizations and clubs New York State Education Department publication A Survey of Education for the Gifted and Talented in New York State in 1974-75

Task	Activity	Product	Resource
PHASE TWO: ORGANIZING			
3. Develop statement of philosophy for meeting the needs and interests of the gifted and talented	involve parents, educators, and members of the community relate local district philosophy to the special needs of the gifted in a written document to be approved by the board of education	statement of philosophy accepted by local board of education	New York State Education Department Position Paper No. 23, Educating the Gifted and Talented in New York State
4. Provide awareness among faculty	present awareness workshop(s) which bring teachers up to date on data from needs assessment activities and findings	faculty motivated to go into PHASE THREE	Board of Cooperative Educational Services, Local, and State Education Department personnel
5. Develop a written plan for activities in PHASES THREE and FOUR	analyze this model and adapt it to local needs; include personnel designations, time lines, and objectives	written plan, approved by administration	teachers, administrators, parents, and members of the community
PHASE THREE: SET PRIORITIES			
6. Identify one or more specific fields for K-12 programming; i.e., biological sciences rather than "science," gymnastics rather than "movement"	Identify societal and community concerns and resources analyze results of student interest survey	list of human and technical resources categorized by area (music, art, science, et al.) summary of students' specific interests (types, locations, age levels, continuity)	results of previously administered STUDENT INTEREST SURVEY
Identify a target group (gifted, talented, potentially gifted) for identification and programming	match student needs, characteristics, and interests with current district and community opportunities		teachers, administrators, parents, members of community, and yellow pages of telephone books

Task	Activity	Product	Resource
	identify gaps where interested students have no opportunities identify teacher strengths identify program strengths list programs, facilities, events, and people in the community who do or could provide systematic instructional opportunities for gifted/talented students	recommendations for program priorities	suggested criteria: <ul style="list-style-type: none"> ● high student interest ● competent instruction available ● materials and facilities available
7. Inform teachers and parents; gain their interest, support, and commitment	use faculty meetings, conference days, newsletters, et al., for inservice and communication	increased cooperation	
8. Allocate resources	persuade the Board of Education to allocate or reallocate resources to meet the needs of talented and gifted students	a budget	administrators, parents, members of the community, and advocacy groups

PHASE FOUR: NOMINATION AND IDENTIFICATION

9. Determine broad program goals, objectives, and evaluation plan	study the literature; analyze existing programs in other school districts provide for the collection of data: rating scales time needed for administration; inservice; evaluation; cost for revisions; objective instruments	written program goals, objectives, and general evaluation plan for students who are functionally or potentially talented and/or gifted in fundamental skills, creative problem-finding/solving skills, and personal characteristics	the model proposed in this publication; Title IV-C projects in New York State
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Task	Activity	Product	Resource
	<p>cost; availability; effectiveness; provide for inservice content; amount; quality; effectiveness; costs</p>		
<p>10. Set program parameters</p>	<p>define "gifted" for local district planning purposes define "talented" and "potentially gifted" for local district planning purposes accept, adapt, or reject the model provided in this publication</p> <p>determine: maximum/minimum number of students to be programmed, nature of program (for talented and/or gifted); location, amount of time, resource teachers, grade levels, role of the school, role of the community</p>	<p>a model for identification and programming a broad description of the program, including definitions of students involved</p> <p>(specific objectives for curriculum and instruction will need to be written in terms of the needs and characteristics of identified students)</p>	<p>this publication, professional journals, and consultants</p>
<p>11. Set criteria for selection of students</p>	<p>study the literature; analyze this publication</p>	<p>criteria for final selection (number, age levels, et al.)</p>	
<p>12. Develop nomination instruments</p>	<p>as an inservice activity involve teachers in the process of adapting the nomination forms provided in this guide</p> <p>identify a task group to manage nomination process</p>	<p>locally designed nomination forms</p>	<p>suggested criteria: information requested should (1) be program specific; (2) provide for a broad sweep of possible talented and/or gifted students; (3) be general and related primarily to performance or potential</p>

Task	Activity	Product	Resource
	<p>select individuals and student groups who will be asked to make nominations</p>		<p>performance in activities requiring use of the fundamental and creative problem-finding/solving skills, rather than personal characteristics; (4) be independent of reading and writing</p> <p>suggestions for use of nomination forms:</p> <p>the STUDENT SELF-ASSESSMENT FORM should be filled out by every student who indicated high interest in the priority area and spends a great amount of time at the activity;</p> <p>the ADULT NOMINATION FORM is intended for appropriate members of the community, educators, and parents;</p> <p>the PEER NOMINATION FORM is for all students at the grade level(s) selected for programming</p>
<p>13. Obtain a pool of students</p>	<p>make a master list of all nominated students; assign a number to each one; analyze information from SELF-ASSESSMENT FORMS</p>	<p>pool of students for Step 14</p>	<p>criteria for inclusion in pool:</p> <p>nomination from two sources;</p> <p>student indicates extensive interest and capability</p>
<p>14. Select instruments for collection of objective data concerning nominated students</p>	<p>analyze locally available objective data-gathering instruments such as group intelligence tests, individual intelligence tests,</p>	<p>selected instruments</p>	<p>criteria for selection includes:</p> <p>applicability to the identification model;</p>

Task	Activity	Product	Resource
	<p>appropriate sections of achievement tests, and standardized aptitude, personality, or creativity tests</p> <p>consult the literature for descriptions of additional tests</p>		<p>relevance and usefulness of group IQ scores to the priority field</p> <p>availability of individual IQ test scores;</p> <p>availability of special aptitude or skill tests;</p> <p>availability and usefulness of achievement test scores;</p> <p>availability of item analysis of items of test sections related to the priority field</p>
<p>15. Develop/select subjective data-gathering instruments</p>	<p>collect rating scales from varied sources</p> <p>adapt rating scales to the priority area</p> <p>select additional subjective materials for inclusion in the selection process, such as autobiographies, cumulative records, records of counselors, and parental interviews and questionnaires</p>	<p>rating scales for local district priority area(s)</p> <p>additional subjective materials</p>	<p>criteria includes:</p> <p>applicability to the identification model;</p> <p>appropriateness of rating scale items for fundamental skills to the priority field;</p> <p>appropriateness of rating scale items for creative problem-finding/solving steps and student characteristics;</p> <p>availability of opportunities to rate the problem-finding/solving skills;</p> <p>availability of student products;</p> <p>availability of adults to use scales and rate student products, processes and/or performances</p> <p>RATING SCALE: Fundamental Skills and Abilities</p>

Task	Activity	Product	Resource
			<p>RATING SCALE: Creative Problem-Finding/Solving Skills</p> <p>RATING SCALE: Personal Characteristics</p>
<p>16. Design a format for data analysis</p>	<p>analyze characteristics of data-gathering instruments</p> <p>develop summary matrices for objective and subjective data or adapt</p> <p>SAMPLE MATRICES included in this publication</p>	<p>Matrix for subjective data</p> <p>Matrix for objective data</p>	<p>criteria for summary matrices:</p> <p>1) manageable format 2) easily analyzed 3) ratings must be transformed to numbers</p> <p>see sample summary matrices for objective and subjective data</p>
<p>17. Provide inservice training for use of data-collection instruments</p>	<p>involve teachers in the adaptation of instruments</p> <p>use faculty meetings to bring all faculty up to date on the processes</p>		
<p>18. Identify students</p>	<p>administer subjective and objective data gathering instruments;</p> <p>identify members of a Selection Committee</p> <p>develop criteria and cutoff points; rank students; use a cutoff figure of twice the number of stu-</p>	<p>Selection Committee including an administrator, a teacher, a special teacher, a guidance counselor or psychologist, a parent, and appropriate others to examine the data collected for the students</p> <p>group of students who meet specific selection criteria</p>	<p>each rating scale should be used by a minimum of two adults</p> <p>use products developed in Step 11</p>

Task	Activity	Product	Resource
	<p>dents to be accommodated by the program</p> <p>select decision-making committee</p>	<p>final selection of students for programming</p>	
<p>19. Evaluate identification processes and (revised) instruments</p>	<p>evaluate information collected</p>	<p>recommendations for:</p> <p>revised identification program;</p> <p>revised curriculum and instruction to facilitate identification;</p> <p>initiation of "threshold" programs specially designed to encourage development of talents and gifted among minorities and women</p>	<p>criteria may include:</p> <p>number of females identified compared with percentage to be expected</p> <p>number of functionally talented and/or gifted identified</p> <p>number of potentially talented and/or gifted identified</p> <p>number of minority students compared with expectations</p> <p>criteria used in Steps 14 and 15 should also be applied</p>

Not all screening instruments and methods are appropriate for every area of gifted and talented ability. Once a general procedure for selecting gifted students for a particular program has been determined, a committee may wish to focus on instruments and methods for locating students with superior abilities in specific areas. This is a vital step in the procedure since it should ensure that the identification methods chosen do help locate students with characteristics appropriate for the particular program.

The following are some of the methods which seem to be most appropriate for identifying gifted and talented students in the respective areas defined by the U.S. Office of Education in 1978.

Intellectual Ability

GOAL: To help students expand their intellectual abilities and interests, and their modes of responding to their environment.

Students who would probably excel in these programs often display some of the following characteristics: verbal sense of humor, divergent and associative thinking, ability to generalize, questioning attitude, and persistence. To help locate these individuals, the following instruments and procedures would be helpful:

- *Student Interest Inventory.* Look for a wide variety of interests, some of which have been pursued in depth. Look for students who show a highly developed, verbal sense of humor. Also look at the games they enjoy playing, such as chess and Mastermind.
- *Parent Nomination.* Look for items similar to those cited under interest inventory. Also look for hobbies, books read, and games.
- *Peer Nomination.* Look for students who are sought out for answers to both academic and general problems.
- *Teacher Recommendation.* Look for students who ask a variety of questions, who tend to ask probing questions, who have strong interests, who are critical of superficial answers.

- *Biographical Inventory.* Highlight those activities and interests which demonstrate variety and some depth and persistence. Also look for behaviors which reflect a curiosity about the total environment.
- *Objective Tests.* While we have many reservations about the use of standardized tests, especially group tests (see pp. 49–51), some gifted and talented individuals demonstrate their abilities on individual intelligence tests. These tests, however, should be used to include individuals rather than to exclude them. If students do not perform well on these tests, they may still be gifted and may show it in some of the ways just mentioned.
- *Tests of Higher-Level Thinking Skills.* See “Sources of Instruments” in Supplementary Materials.
- If there is a large group of individuals whose cultural backgrounds differ from the majority, *culture fair* or some *creativity tests* may be used.

Academic Talent

GOAL: To help students pursue academic interests in depth.

Students with superior academic talent usually achieve well in the academic areas, have superior reading and verbal abilities. They may be identified by using the following instruments and procedures:

- *Interest Inventory.* Look for strong interests in the academic area(s) included in the program.
- *Parent Recommendation.* Look for activities and interests which reflect ability, depth of knowledge, and interest in the subjects included in the program.
- *Transcripts.* Look for high grades in specific areas.
- *Teacher Recommendation.* Ask for recommendations especially from teachers of subject areas or disciplines related to the program.
- *Tests.* Achievement tests, especially in subject(s) in the program; intelligence tests; and special tests for specific subject(s) in the program may be used.

Creative and Productive Thinking

GOAL: To provide a wide range of opportunities and experiences to allow individuals to experiment, take risks, and produce creative *products*.

Students with superior creative and productive thinking abilities enjoy exploring "What if . . ." questions, generating a wide variety of possible answers to real and hypothetical situations, and drawing relationships among seemingly unrelated ideas. These individuals are often absorbed in the literature of science fiction. They may be identified by use of the following instruments and procedures:

- *Self-Interest Inventory*. Look for a variety of diverse interests and activities and for enjoyment in creating products and pursuing ideas.
- *Parent Recommendation*. Look for diversity of interests, sense of humor, involvement in futures studies (e.g., science fiction, environmental progress, scientific advances).
- *Teacher Recommendation*. Focus on behaviors demonstrating abilities to draw associations among seemingly diverse ideas and abilities to generate many ideas from a specific stimulus. Also look for students who often raise "What if . . ." questions and who show an interest in implications of current trends for the future.
- *Biographical Inventory*. Highlight diversity of interests, variety of modes of expression other than print (e.g., film, tapes, verbal).
- *Student Products*. Look for both originality and quality.
- *Tests*. See Supplementary Materials, "Creativity Tests."

Leadership

GOAL: To help students fulfill their potential as leaders in our society.

Students with superior leadership ability are often those whom others respect and follow. These are also the individ-

uals who are willing to assume responsibility for a variety of tasks and to fulfill this responsibility once accepted. The following instruments and procedures are suggested to identify them:

- *Self-Interest Inventory.* Focus on those areas which demonstrate a willingness to assume responsibility and a desire to complete tasks.
- *Biographical Inventory.* Take special note of activities which reflect group experiences, project work.
- *Peer Recommendation.* Look for those students others would like to assume responsibility for group tasks and those who others believe will complete the task well. Also look for students whom others select to participate in their groups.
- *Teacher Recommendation.* Focus on students to whom other students turn for help in completing projects, including nonacademic areas. These students may not be the ones teachers would necessarily select for the tasks. Also consider students who contribute productively to group efforts even when they are not leading the group.
- *Sociometric Tests.* Look for students who have influence over others in informal situations.

Visual and Performing Arts

GOAL: To provide opportunities and experiences to allow gifted and talented students to develop their abilities in specific areas in the visual and/or performing arts (e.g., painting, sculpture, film, dance, theatre, music).

Students with superior abilities in the visual and performing arts often pursue these interests through extracurricular school activities, community functions, and, especially, individually. Consequently, behaviors indicative of these gifted individuals may be found beyond the classroom. The following instruments and procedures are recommended to identify them:

- *Self-Interest Inventory.* Look for pursuit of interests in visual or performing arts. These activities or hobbies may include photography, folk art, painting, drawing, music, and dance.

- *Parent Recommendation.* Look for early interests and activities in visual and performing arts, including both attendance and participation.
- *Biographical Inventory.* Highlight activities and interests in the preceding areas.
- *Product.* Have experts in specific visual and performing arts areas examine an individual work or performance, looking both for quality and potential.
- *Personal Interview.* Because of the intensive nature of some of the work in this area, look for students who are willing to expend the necessary time and energy. Furthermore, some students are not aware of the variety of opportunities within this field, therefore the interview situation should also involve a description of the kinds of activities students may pursue and should encourage questions about the program.
- *Peer Recommendation.* Look for individuals who pursue activities in or related to visual or performing arts. Often gifted individuals will share their products with peers but not with adults. For example, look for those who draw caricatures, perform in popular bands, play instruments for friends, can improvise impersonations, and so forth.
- *Tests.* Some specific areas, such as music, have tests which purport to reflect ability and potential. If these are used, they should supplement rather than supersede other sources of information.

CONCLUDING COMMENT

Some years ago a topic appeared on the Writing Sample test in English which stated, "The degree of health of a society can be measured by the extent to which it tolerates diversity." Perhaps as we consider the gifted and highly gifted in our society we would do well to remember this statement but substitute the word "encourages" or "rewards" in place of the word "tolerates." Kurt Vonnegut poses an interesting alternative in his short story "Harrison Bergeron" (17), when he asks what the world would be like if everyone were forced to be equal in every way.

Throughout this text we have suggested that in order to be able to focus upon the gifts and strengths of each individual person, a wide range of identification instruments must be used. As a teacher, as a school, as a society, can we dare to cultivate uniqueness? Can we risk being organic gardeners in our classroom rather than computer programmers, machinists, or production managers? But when we have an educational system based upon an industrial model whose stated purpose is to ensure an "efficient" operation which results in a uniform product, how can we, as teachers, find ways to remind ourselves that diversity and uniqueness are also values worth working to protect and enhance?

If we can begin to think of ourselves as gardeners, as shapers of environments rather than makers of people, perhaps we can allow each separate seed to grow and develop and maybe even flower without demanding that all the seeds do everything at the same time and in the same order. Perhaps, as we grow in our own self-understanding and self-confidence, we can begin to perceive that each seed *is* different and we can seek to enable each to become what it is and not try to force it to become something else. Perhaps we can even come to trust that the seed of strength and creativity, the source of life and health and flowering, does indeed lie deep within each person, and by so trusting we will help provide the nurturing that will call forth the seed. Who knows, in time (its own time, not necessarily ours) it may push itself upward, come into its own, and bear much fruit. What greater joy can a gardener have than to witness the variety and splendor of the living plants that responded to such careful attention?

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SUPPLEMENTARY MATERIALS

SAMPLE IDENTIFICATION INSTRUMENTS AND MATERIALS

Although we are aware of a wide range of programs and identification procedures for gifted individuals, we, of course, do not know every one. Consequently, we have selected a few samples from those with which we are most familiar as representative of different approaches and different program goals. These approaches include a summer program for creative individuals, a full-time program for intellectually-academic gifted, and a pull-out, enrichment program for intellectually-creative gifted. Even if the specific procedure is not appropriate for your program, perhaps some of the instruments will be helpful.

The instruments most appropriate for a specific program depend on the characteristics of the population and the goals of the program. We urge you to check with your guidance counselor for materials used in the district and to examine the particular items for relevance to your program. Each school should create its own procedure, including particular instruments and specific items on inventories as well as criteria for inclusion in the program.

Performance Lists

The following checklists of behaviors of gifted individuals have been developed to help in identifying students for special programs.

Scales

Sample Items from the Scales for Rating the Behavioral Characteristics of Superior Students*

Part I: Learning Characteristics

- 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.
- Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his age).
- Has quick mastery and recall of factual information.

Part II: Motivational Characteristics

- 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.)
- Is easily bored with routine tasks.
- Needs little external motivation to follow through in work that initially excites him.

Part III: Creativity Characteristics

- Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything.
- Generates a large number of ideas or solutions to problems and questions; often offers unusual ("way out"), unique, clever responses.
- Is uninhibited in expressions of opinion; is sometimes radical and spirited in disagreement; is tenacious.

Part IV: Leadership Characteristics

- Carries responsibility well; can be counted on to do what he has promised and usually does it well.
- Is self-confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.
- Seems to be well liked by his classmates.

Part V: Artistic Characteristics

- Likes to participate in art activities; is eager to visually express ideas.

- Incorporates a large number of elements into art work; varies the subject and content of art work.
- Arrives at unique, unconventional solutions to artistic problems as opposed to traditional, conventional ones.

Part VI: Musical Characteristics

- Shows a sustained interest in music—seeks out opportunities to hear and create music.
- Perceives fine differences in musical tone (pitch, loudness, timbre, duration).
- Easily remembers melodies and can produce them accurately.

Part VII: Dramatics Characteristics

- Volunteers to participate in classroom plays or skits.
- Easily tells a story or gives an account of some experience.
- Effectively uses gestures and facial expressions to communicate feelings.

Part VIII: Communication Characteristics—Precision

- Speaks and writes directly and to the point.
- Modifies and adjusts expression of ideas for maximum reception.
- Is able to revise and edit in a way which is concise, yet retains essential ideas.

Part IX: Communication Characteristics—Expressiveness

- Uses voice expressively to convey or enhance meaning.
- Conveys information nonverbally through gestures, facial expressions, and "body language."
- Is an interesting storyteller.

Part X: Planning Characteristics

- Determines what information or resources are necessary for accomplishing a task.
- Grasps the relationship of individual steps to the whole process.
- Allows time to execute all steps involved in a process.

* From *A Guidebook for Developing Individualized Educational Programs for Gifted and Talented Students*, by Joseph S. Renzulli and Linda H. Smith (Mansfield Center, Conn.: Creative Learning Press, 1979), Figure 2 (p. 7).

Teacher Checklists

Checklist for Kindergarten Students*

Student's Name _____ School _____ Date _____

DIRECTIONS: Please place an X on the line beside each question which **BEST** describes the student.

A. LANGUAGE

1. Is the pupil able to read above grade level 1.5?
2. Indicate grade level for independent reading comprehension.
3. Does the pupil understand the relationship of such words as up—down, top—bottom, big—little, far—near?
4. Does the pupil follow a three-step direction?
5. Does the pupil remain on task for a minimum of 25 minutes?

NO

YES

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. PSYCHOMOTOR ABILITIES

1. Can the pupil skip, throw, and catch?
2. Does the pupil exhibit coordination by being able to bounce a ball or tie shoelaces?
3. Can the pupil reproduce a five-beat rhythm pattern?
4. Can the pupil draw a person? Please attach example.
5. Can the pupil complete the missing parts of an incomplete familiar picture by drawing the parts in their proper perspective?
6. Can the pupil reproduce a three-dimensional design?
7. Can the pupil hear likenesses and differences in the beginnings of words; e.g., hill-bill, feet-treat, boat-coat?

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

C. MATHEMATICS

1. Can the pupil repeat five digits forward and three reversed?
2. Can the pupil join and separate a sequence of sets?
3. Can the pupil recognize and understand the value of coins (penny, nickle, dime, and quarter)?

_____	_____
_____	_____
_____	_____

* From materials prepared for Dade County (Florida) Public Schools, James S. Miley, Coordinator for the Gifted.

Seldom
or Never

Occa-
sionally

Fre-
quently

Almost
always

D. CREATIVITY

1. Can the pupil interpret stories or pictures in his own words?
2. Can the pupil predict possible outcomes for a story?
3. Can the pupil create rhymes which communicate?
4. Does the pupil offer solutions for problems that are discussed in the classroom?
5. Does the pupil display curiosity by asking many questions or by other types of behavior?
6. Does the pupil question critically?
7. Does the pupil explore new ideas or invent new ways of saying and telling?

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

E. GENERAL CHARACTERISTICS

1. Does the pupil readily adapt to new situations; is he flexible in thought and action; and does he seem undisturbed when the normal routine is changed?
2. Does the pupil seek new tasks and activities?
3. Is the pupil cooperative; does he tend to avoid bickering; and is he generally easy to get along with?
4. Does the pupil tend to dominate others and generally direct the activity in which he is involved?
5. Does the pupil appear to be happy and well adjusted in school work, as evidenced by relaxed attitude, self-confidence, and pride in work?

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Checklist for First Grade Students*

Student's Name _____ School _____ Date _____

DIRECTIONS: Please place an X on the line beside each question which **BEST** describes the student.

	NO		YES	
1. Is the pupil able to read two years above grade?	_____		_____	
2. Indicate grade level for independent reading comprehension.		_____		
3. Can the pupil recognize the number and sequence of steps in a specified direction?	_____		_____	
4. Can the pupil recognize the properties of right angles in a geometric figure?	_____		_____	
5. Can the pupil identify a three-dimensional object from a two-dimensional projection and/or a two-dimensional object from a three-dimensional projection?	_____		_____	
6. Does the pupil form sets and subsets?	_____		_____	
7. Does the pupil understand the concepts of place value?	_____		_____	
	Seldom or Never	Occa- sionally	Fre- quently	Almost always
8. Can the pupil create a short story for a familiar subject?	_____	_____	_____	_____
9. Can the pupil interpret stories and pictures in his own words?	_____	_____	_____	_____
10. Does the pupil display curiosity by asking questions about anything and everything?	_____	_____	_____	_____
11. Does the pupil question critically?	_____	_____	_____	_____
12. Does the pupil demonstrate flexibility in his thinking pattern and the ability to communicate this to others?	_____	_____	_____	_____
13. Does the pupil perform independently?	_____	_____	_____	_____
14. Can the pupil complete the missing parts of an incomplete familiar picture by drawing the parts in their proper perspective?	_____	_____	_____	_____
15. Does the pupil exhibit superior ability in performing in an organized physical activity and obeying the rules?	_____	_____	_____	_____
16. Does the pupil make associations between sounds and their symbols?	_____	_____	_____	_____
17. Does the pupil tend to dominate others and generally direct the activity in which he is involved?	_____	_____	_____	_____

* From materials prepared for Dade County (Florida) Public Schools, James S. Miley, Coordinator for the Gifted.

	Seldom or Never	Occa- sionally	Fre- quently	Almost always
18. Does the pupil appear to be happy and well adjusted in school work, as evidenced by relaxed attitude, self-confidence, and pride in work?	_____	_____	_____	_____
19. Does the pupil demonstrate tendencies to organize people, things, and situations?	_____	_____	_____	_____
20. Does the pupil follow through with tasks that initially he was motivated to do?	_____	_____	_____	_____
21. Does the pupil readily adapt to new situations; is he flexible in thought and action; and does he seem undisturbed when the normal routine is changed?	_____	_____	_____	_____
22. Does the pupil seek new tasks and activities?	_____	_____	_____	_____
23. Is the pupil cooperative; does he tend to avoid bickering; and is he generally easy to get along with?	_____	_____	_____	_____
24. Is the pupil self-confident with pupils his own age and/or adults; seems comfortable when asked to show his work to the class?	_____	_____	_____	_____

Checklist for Grades 2-6*
RATING SCALE #1: PUPIL LEARNING CHARACTERISTICS

Student's Name _____ School _____ Date _____

DIRECTIONS: Please place an X on the line beside each question which **BEST** describes the student.

	Seldom or Never	Occa- sionally	Fre- quently	Almost always
1. Has verbal behavior characterized by "richness: of expression and elaboration."	_____	_____	_____	_____
2. Possesses a large storehouse of information about a variety of topics beyond the usual interests of youngsters his age.	_____	_____	_____	_____
3. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions; wants to know what makes things or people "tick."	_____	_____	_____	_____
4. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people or things; looks for similarities and differences.	_____	_____	_____	_____
5. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc., than others.	_____	_____	_____	_____
6. Reads a great deal on his own; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedias, atlases, travel, folk tales, poetry, science, history, and drama.	_____	_____	_____	_____
7. Tries to understand complicated material by separating it into its respective parts; reasons things out for himself; sees logical and common sense answers.	_____	_____	_____	_____
8. Is the pupil achieving two years above grade level in reading? Grade Level _____				
9. Is the pupil achieving two years above grade level in mathematics? Grade Level _____				

* From materials prepared for Dade County (Florida) Public Schools, James S. Miley, Coordinator for the Gifted.

RATING SCALE #2: PUPIL MOTIVATIONAL CHARACTERISTICS

Student's Name _____ School _____ Date _____

DIRECTIONS: Please place an X on the line beside each question which **BEST** describes the student.

	Seldom or Never	Occa- sionally	Fre- quently	Almost always
1. Becomes absorbed and truly involved in certain topics or problems; is persistent in seeking task completion—sometimes it is difficult to get him to move on to another topic.	_____	_____	_____	_____
2. Is easily bored with routine tasks.	_____	_____	_____	_____
3. Follows through with tasks that initially he was motivated to do.	_____	_____	_____	_____
4. Is self-critical; strives toward perfection.	_____	_____	_____	_____
5. Prefers to work independently; needs minimal direction from teachers.	_____	_____	_____	_____
6. Is positive and zealous in his beliefs.	_____	_____	_____	_____
7. Has tendency to organize people, things, and situations.	_____	_____	_____	_____
8. Is concerned with right and wrong, good and bad; often evaluates and passes judgment on events, people, and things.	_____	_____	_____	_____

RATING SCALE #3: CREATIVITY CHARACTERISTICS

Student's Name _____ School _____ Date _____

	Seldom or Never	Occa- sionally	Fre- quently	Almost always
DIRECTIONS: Please place an X on the line beside each question which BEST describes the student.				
1. Displays curiosity about many things; is constantly asking questions about anything and everything.	_____	_____	_____	_____
2. Generates a large number of ideas or solutions to problems and questions; often offers unusual, "way out," unique, clever responses.	_____	_____	_____	_____
3. Is uninhibited in expressions of opinion; is sometimes radical and spirited in disagreement; is tenacious.	_____	_____	_____	_____
4. Is a high risk taker; is adventurous and speculative.	_____	_____	_____	_____
5. Displays a good deal of intellectual playfulness; fantasizes; imagines; manipulates ideas—changes, elaborates upon them.	_____	_____	_____	_____
6. Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others.	_____	_____	_____	_____
7. Is unusually aware of his impulses and more open to the irrational in himself.	_____	_____	_____	_____
8. Is sensitive to beauty; responds to aesthetic characteristics of things.	_____	_____	_____	_____
9. Is nonconforming; is not interested in details; is individualistic; does not fear being different.	_____	_____	_____	_____
10. Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination.	_____	_____	_____	_____

RATING SCALE #4: LEADERSHIP CHARACTERISTICS

Student's Name _____ School _____ Date _____

Seldom
or Never Occa-
sionally Fre-
quently Almost
always

DIRECTIONS: Please place an X on the line beside each question which BEST describes the student.

- | | | | | |
|--|-------|-------|-------|-------|
| 1. Carries responsibility well; follows through with tasks and usually does them well. | _____ | _____ | _____ | _____ |
| 2. Is self-confident with children his own age as well as adults; seems comfortable when asked to show his work to the class. | _____ | _____ | _____ | _____ |
| 3. Seems to be respected by his classmates. | _____ | _____ | _____ | _____ |
| 4. Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with. | _____ | _____ | _____ | _____ |
| 5. Can express himself well; has good verbal facility and is usually well understood. | _____ | _____ | _____ | _____ |
| 6. Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed. | _____ | _____ | _____ | _____ |
| 7. Seems to enjoy being around other people, is sociable, and prefers not to be alone. | _____ | _____ | _____ | _____ |
| 8. Tends to dominate others when they are around; generally directs the activity in which he is involved. | _____ | _____ | _____ | _____ |
| 9. Participates in most activities connected with the school; can be depended upon to be there. | _____ | _____ | _____ | _____ |

Checklist for Middle Grades and Above*

Student's Name

School

Grade

Homeroom

Teacher's Name

School Term

To the Teachers:

We need your help. We're looking for children in your classroom who you feel might be more able than their test scores indicate. The following list of characteristics, while by no means all inclusive, represents traits found in gifted and creative children. If any student in your class is described by at least twelve (12) of the items on this list, you may want to watch him more carefully for possible inclusion in the gifted program. Those items which are most applicable should be double checked. Will you help us by responding to the following checklist for the top students in your class? Supporting information and comments should be written on the back of this form.

- _____ 1. Is an avid reader.
- _____ 2. Has received an award in science, art, literature.
- _____ 3. Has avid interest in science or literature.
- _____ 4. Very alert, rapid answers.
- _____ 5. Is outstanding in math.
- _____ 6. Has a wide range of interests.
- _____ 7. Is very secure emotionally.
- _____ 8. Is venturesome, anxious to do new things.
- _____ 9. Tends to dominate peers or situations.
- _____ 10. Readily makes money on various projects or activities—is an entrepreneur.
- _____ 11. Individualistic—likes to work by self.
- _____ 12. Is sensitive to feelings of others—or to situations.
- _____ 13. Has confidence in self.
- _____ 14. Needs little outside control—disciplines self.
- _____ 15. Adept at visual art expression.
- _____ 16. Resourceful—can solve problems by ingenious methods.
- _____ 17. Creative in thoughts, new ideas, seeing associations, innovations, etc. (not artistically).
- _____ 18. Body or facial gestures very expressive.
- _____ 19. Impatient—quick to anger or anxious to complete a task.
- _____ 20. Great desire to excel even to the point of cheating.
- _____ 21. Colorful verbal expressions.
- _____ 22. Tells very imaginative stories.
- _____ 23. Frequently interrupts others when they are talking.
- _____ 24. Frank in appraisal of adults.
- _____ 25. Has mature sense of humor (puns, associations, etc.).
- _____ 26. Is inquisitive.
- _____ 27. Takes a close look at things.
- _____ 28. Is eager to tell others about discoveries.
- _____ 29. Can show relationships among apparently unrelated ideas.
- _____ 30. Shows excitement in voice about discoveries.
- _____ 31. Has a tendency to lose awareness of time.

* From San Francisco Unified School District Programs for Mentally Gifted Minors, William B. Cummings, Supervisor.

Checklist for Junior High*

Student's Name _____
Last
First
Initial
School
Date

Please check the column which best describes student.

	Truly Exceptional— Highest 5%	Outstanding— Highest 5%	Excellent— Next Highest 15%	Good—Next Highest 15%	Above Average— Next 15%	Average— Middle 20%	Poor—Lowest 40%
Initiative: Carries responsibility well; follows through with tasks and usually does them well. Is positive and zealous in beliefs; is self-critical, striving to do better.							
Courage: Is a high risk taker; is adventurous and speculative.							
Self-Confidence: Is self-confident with students his own age as well as adults; seems comfortable when asked to show his work to the class.							
Curiosity: Tries to discover how and why of things; asks many provocative questions.							
Independence: A—Prefers to work independently; needs minimal direction.							
B—Generally directs the activity in which he is involved.							
Health: Good health; attendance and tardiness not a factor in grading.							
Responsibility: Can follow written and oral directions, stays on task, handles equipment.							
Flexibility: Adapts readily to new situations; is flexible in thought and action.							
Expressiveness: Can express himself well; has good verbal facility and is usually well understood; has ability to organize ideas in written form.							
Respect for Others: Is cooperative with teacher and peers; tends to avoid bickering and is generally easy to get along with.							

If you know of some particular reason why this student should or should not be in the Program, please comment on opposite side.

Teacher's Name _____ Subject _____ Date _____

* From materials prepared for Dade County (Florida) Public Schools, James S. Miley, Coordinator for the Gifted.

**Checklist for Culturally Disadvantaged Underachieving Mentally Gifted Minors
(Suggested by the State Consultants in the Education of the Mentally Gifted)***

1. Early evidence of:
 - School-related learning
 - Maturation
 - Active and persistent exploration of environment
 - Imitation of adult behavior
 - Questioning of established ways of doing things or of assignments and directions

2. Unusually resourceful in coping with:
 - 2.1 Responsibilities
 - Home
 - School
 - Work
 - Community
 - Other
 - 2.2 Opportunities
 - Access to resources
 - Free and/or unstructured time
 - New environments
 - New experiences
 - Other
 - 2.3 Deprivations
 - Economic
 - Social
 - Expression, information, planning, communication, exploration
 - Cultural
 - Educational
 - 2.4 Problems, Frustrations, and Obstacles
 - School
 - Home
 - Social
 - Other
 - 2.5 Lack of Structure and Direction
 - No closure
 - Poor or irrational organization of:
 - Time
 - Work tasks
 - Learning experiences
 - Social experiences
 - 2.6 Overly structured settings
 - With no or few opportunities to explore alternatives
 - With overemphasis on rigid expectations and with rigid role performance
 - With no or few opportunities to do things in new ways

3. Playful with:
 - Materials
 - People (interpersonal relations)
 - Ideas
 - Other things

4. Sense of humor (Describe)

* Obtained through Dr. Paul Plowman, California State Department of Education.

5. Products (List)

6. Achievements (List)

7. Skills (List)

8. Scores on intellectual ability tests:

_____ Scores compared with norms for culturally disadvantaged children

_____ Nonverbal score as compared with verbal score

9. Intelligence/achievement scattergram profiles and aptitude test scores

10. Ratings on maturation profiles; e.g., Gesell

Checklist for Able Disadvantaged Pupils*

Name _____ Date _____

School _____ Grade _____ Age _____

Able disadvantaged pupils evidence superior ability in one or more of the five areas listed below. No pupil is expected to demonstrate ability in all areas, but an analysis of strengths may indicate potential. It is important to note that these characteristics can be evidenced in both positive and negative ways and either manifestation is an indicator of strength. Examples of negative indicators have been enclosed in parenthesis.

The classroom teacher who works daily with pupils is best qualified to make these observations. Place an X on the line beside each statement which **BEST** describes this pupil. If the behavior has not been observed, leave the line blank.

	YES	NO
A. LEARNING		
● Demonstrates verbal proficiency in small group problem-solving tasks.	_____	_____
● Has unusually advanced vocabulary for age or grade level.	_____	_____
● Has verbal behavior characterized by "richness" of expression, imagery, elaboration, and fluency in any language. (Sometimes rambles on and on.)	_____	_____
● Possesses a large storehouse of information about a variety of topics beyond the usual interests of age peers.	_____	_____
● Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions; wants to know what makes things or people "tick." (Can be an annoyance in persisting to ask questions.)	_____	_____
● Has a ready grasp of underlying principles; can quickly make valid generalizations about events, people or things. (Sometimes skeptical.)	_____	_____
● Looks for similarities and differences.	_____	_____
● Reads independently; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedia, atlases, travel, folk tales, poetry, science, history, and drama.	_____	_____
● Tries to understand complicated material by separating it into its respective parts; reasons things out and sees logical and common sense answers.	_____	_____
● Catches on quickly; retains and uses new ideas and information.	_____	_____
● Has a facility for learning English if bilingual.	_____	_____
● Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc., than others.	_____	_____
B. MOTIVATION		
● Evidences power of concentration.	_____	_____
● Prefers to work independently with minimal direction from teachers. (Resists directions.)	_____	_____
● Has tendency to organize people, things, and situations. (Resists opinions of others; wants own way.)	_____	_____
● Is concerned with right and wrong, good and bad. (Makes decisions with little tolerance for shades of "grey.")	_____	_____

* From materials prepared by Los Angeles Unified School District.

- Demonstrates unusual ability in one of the practical arts (underline area of strength): handicrafts, wood, metal, print, design, mechanics.
- Demonstrates exceptional skill and ability in physical coordination activities.
- Shows interest in unconventional careers.
- Improvises with commonplace materials.

_____	_____
_____	_____
_____	_____
_____	_____

E. ADAPTABILITY

- Handles outside responsibilities and meets school demands.
- Learns through experience and is flexible and resourceful in solving day-to-day problems.
- Deals effectively with deprivations, problems, frustrations, or obstacles caused by the complexities of living conditions.
- Overcomes lack of environmental structure and direction. (Needs emotional support and sympathetic attitude.)
- Displays high degree of social reasoning and/or behavior and shows ability to discriminate.
- Uses limited resources to make meaningful products.
- Displays maturity of judgment and reasoning beyond own age level.
- Is knowledgeable about things of which others are unaware.
- Can transfer learning from one situation to another.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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Questionnaires and Inventories

The following materials have been developed to obtain information from a variety of sources, including parents, peers, and the candidate. They should, of course, be modified for each particular program and situation.

Self

Self-Portrait*

Self-expression has many forms and holds a significant place in each of our lives. We encourage you to ponder and share the exploration of yourself with us through a self-portrait. Rather than showing how you appear to others, express yourself as you feel yourself to be. Your self-portrait may be a symbol or image or any combination of line, shape, and color that stands for you.

After you have completed your self-portrait on a separate piece of paper, write a brief interpretation of it in the space below.

The "openness" of this task may lead to some valuable insights not obtainable elsewhere.

* From Horizons Unlimited, Keene State College, Keene, N. H.

Autobiographical Questionnaire*

Name _____ Student _____ Teacher _____

Address _____ Age _____

Telephone _____

Please approach the following questions from an autobiographical point-of-view. Skip any questions you prefer not to answer. All questionnaires will be completely confidential.

1. What occupation do you have or do you envisage? For what reasons did you choose the work you are doing or planning?
2. Have any particular cultural works held deep meaning for you (e.g., books, films, music, theatre, painting, etc.) and how were you affected by them?
3. How would you describe the quality of your relationships with other people, including strong and weak points? How would these affect your participation in a living-learning situation with 40 other people for 4 weeks?
4. What significance and value has friendship for you?
5. What events, activities, and inner conditions have given you the most satisfaction and joy? Which have made you suffer most? Which have had most meaning and significance for you?
6. Are there any values and ideals which you hold firmly as a result of your own experience? How do you express these in your life? How do you fail to express them?
7. What is your perception of education? How do you think you learn best?
8. What is your opinion about the present epoch in human history and consciousness? In what ways do you think we are making progress or losing ground? What do you see as the major challenges facing mankind today?

These questions relate specifically to the philosophy of Horizons Unlimited. Your questions should reflect your philosophy.

* From Horizons Unlimited, Keene State College, Keene, N. H.

Biographical Inventory*

1. Academic Achievement

How fast do you learn new material in school, compared with others your age?

- A. Much faster than most
- B. Just a little faster than most
- C. About the same as most
- D. Just a little slower than most

2. Creativity

How often do you read an advanced text to learn more about a subject of interest to you?

- A. Not very often
- B. About once or twice a month
- C. About once a week
- D. A few times a week
- E. Once a day or more

3. Artistic Potential

Do you like to practice to develop your talent or skill in a particular artistic or musical activity?

- A. Yes
- B. Sometimes
- C. No

4. Leadership

How much time do you spend in organized school activities (plays, band, student government, etc.)?

- A. Most of my spare time
- B. Quite a bit
- C. Some
- D. Very little
- E. None

5. Vocational Maturity

Do you know what kinds of education or training are necessary for certain jobs?

- A. Have not really thought about this question.
- B. I know some of the kinds of schooling or training needed.
- C. I know what kinds of education or training are needed for the jobs I'm considering.

6. Educational Orientation

How long do you expect to go to school?

- A. Only until I can quit
- B. Until I graduate from high school
- C. Some schooling after high school
- D. Until I graduate from college
- E. Don't know

* Sample items from *Biographical Inventory: Form U*, Institute for Behavioral Resources in Creativity (IBRIC), Salt Lake City, Utah, 1976.

**Parent Questionnaire*
Examiner Instructions**

1. Don't tell the parent this is a questionnaire to determine if the child will be called "gifted" and put in a special program. It isn't!
2. Some parents are more verbal than others. Some parents will go to great lengths to fill out a written questionnaire, others don't like to write anything and will respond Yes, No. Write down any anecdotes the parent *tells* about the child, whether the story seems relevant or not. The more information we get, the better.

Questioner assessment: Do you think the parent gave information comfortably?

Did it seem *to you* that the parent overestimated or underestimated the child's abilities?

This questionnaire could be used by any teacher to help. Instruction—an important point.

Some parents fear the school setting and this should be taken into account when reading reports. Lack of response from parent does not indicate lack of ability.

* By Margot Nicholas Parrot for the Bucksport/Oreland Gifted Task Force, June 1978.

Parent Questionnaire

We are trying to find out your child's special strengths. Please be as accurate as possible—do not overestimate or underestimate. Any personal stories that you wish to share with us will help us to better understand your child. There is a space after most questions for your remarks. If you want extra paper, or if you would rather tell a story than write it, please let the questioner know. You may also want to give the questioner a sample of your child's art work or a story he/she has made up.

Note lack of reference to special program or "gifted" ability.

Child's name:

Parent(s):

Address:

School or preschool program if any:

Child's birthdate:

What sports or dance experience has your child had, formally or informally (such as family games, swimming lessons, etc.)?

Note use of "fill-in" responses when appropriate.

How does the child compare with other children of the same age in physical activities?

At what physical activities is he/she especially good or especially slow?

Does the child have any physical handicaps that you know of or suspect?

At what age did your child learn to do these things?

Cut out pictures with scissors.
Color within the lines.
Tie shoes.
Print alphabet letters.
Print name or other words.
Write out or copy stories/poems.

Age	Not Yet	Don't Know

Does your child excel at art? What kind?

Does your child play a musical instrument? What?

How often does the child use materials like clay or playdough, crayons, paper, paints, paste, etc., at home?

When did your child start doing these things:

	Age	Not Yet	Don't Know
Name alphabet letters (in books, on signs).			
Read/spell own name.			
Read individual word(s).			
Read simple books (like <i>Hop on Pop</i>).			
Read harder books (by him/herself).			
Count to 20.			
Do addition (subtraction) in head (or with objects or on fingers).			
Tell time.			
Count money.			
Remember phone number.			

Does the child understand ideas that seem too complicated for a young child? Like what?

Does he/she use big words or talk in long sentences?

Does the child have an unusually long attention span, or does he/she spend a long time doing any one activity, especially a favorite one?

Does he/she have a special sense of fairness, of justice?

Does he/she have an unusually good memory?

Are there any intellectual or school-type activities at which your child is better than most? What?

Does this child have any known or *suspected* mental or perceptual handicaps? Describe:

(Creativity)

Does the child make up stories, songs, or poems? Are they unusual?

Does the child act out stories or plays with his/her body or with puppets or toys? With other children? Describe:

Does your child come up with unusual excuses for not doing things?

Does he/she have a vivid imagination? Explain:

(Leadership)

How does the child get along with these people:

Question	Very Well	Normal—O.K.	Not Well
Kids of his/her age			
Adults			
Older children			
Younger children			
Large groups			
Small groups (2-4 kids)			

When playing games or getting into mischief, is this child often the leader?

Does he/she prefer to play alone _____, or in small groups _____, or the more the better _____?

Has he/she ever been with a group of kids regularly (like nursery school, church group, etc.)? Describe:

How did she/he like it?

(Family/general)

What are the child's favorite activities?

What are the family's favorite activities?

Every parent sees special things about his/her child that other people miss. Describe your child:

Peer Referral Form*

Your Name _____ Person Being Referred _____

Date _____ Grade _____

Answer the following questions as candidly and accurately as possible. Feel free to use the back of this sheet or an additional sheet if necessary.

1. In what capacity do you know the person you are referring? How long have you known him/her?
2. What things about this person led you to think he/she would be a candidate for Project Discovery?
3. Do you see this person as someone who can work independently on something or some project? If left on his/her own, could this person be expected to complete his/her work?
4. In what way is this person creative? For example, could the student interest people around him/her with an original story? Could he/she be bored? Could the person be relied on to come up with something unique and unusual in school or outside of school? A "yes" answer to any of these questions or many others could suggest the person be creative.
5. Is this person organized in his/her work or recreation? Some questions you might ask yourself are: Would I benefit in planning my own project with this person's help? If I gave this student something he/she was capable of doing, would he/she get the job done?

This item may be seen as too much work.

There are a lot of questions in this one item. Could some be a checklist or "fill in the blank"?

* From Project Discovery, Oak Hill High School, Wales, Maine.

Peer Identification—Creativity—Elementary*

Pretend our class found a puppy on the playground.

- A. Which three students would be most likely to think up lots of names for the puppy?

1. _____ 2. _____ 3. _____

Which three would make up the *most unusual* names?

1. _____ 2. _____ 3. _____

Which three would think of names no one else would think of?

1. _____ 2. _____ 3. _____

Which three probably would come up with the name we would finally decide on?

1. _____ 2. _____ 3. _____

- B. Which three students would be most likely to write a story about the puppy?

1. _____ 2. _____ 3. _____

- C. Which three students would probably think up *different* ways to teach the puppy a trick?

1. _____ 2. _____ 3. _____

- D. If we design a collar for our puppy, which three students would probably come up with the *most* designs for a collar?

1. _____ 2. _____ 3. _____

the *fanciest* collar?

1. _____ 2. _____ 3. _____

the *most unusual* collar?

1. _____ 2. _____ 3. _____

- E. Which three students would make the most suggestions of what could be done with the puppy?

1. _____ 2. _____ 3. _____

- F. Which three would give the teacher the most reasons for allowing the dog to come into the classroom?

1. _____ 2. _____ 3. _____

* From *Ideas for Identification of Gifted Children in the Area of Creativity*, Franklin County Region 7, Area Service Center for Educators of Gifted Children, Marion, Illinois.

Peer Identification—Creativity—Secondary*

Think about the students in our class. Answer the following questions as completely as possible.

Which three students are the most curious about many things?

1. _____ 2. _____ 3. _____

have the most ideas and solutions to problems?

1. _____ 2. _____ 3. _____

don't seem to care what others think about what they say?

1. _____ 2. _____ 3. _____

like to take chances?

1. _____ 2. _____ 3. _____

have the most fun imagining about situations and things?

1. _____ 2. _____ 3. _____

are most sensitive to the feelings and concerns of others?

1. _____ 2. _____ 3. _____

have the best sense of humor?

1. _____ 2. _____ 3. _____

are aware of and enjoy beautiful things?

1. _____ 2. _____ 3. _____

are not concerned with details?

1. _____ 2. _____ 3. _____

do not care if others think of them as being different?

1. _____ 2. _____ 3. _____

are real individuals?

1. _____ 2. _____ 3. _____

are apt to question authority?

1. _____ 2. _____ 3. _____

* From *Ideas for Identification of Gifted Children in the Area of Creativity*. Franklin County Region 7, Area Service Center for Educators of Gifted Children, Marion, Illinois.

Recommendation Form*

Recommendation for _____
(Name of Applicant)

Horizons Unlimited is a summer program for gifted adolescents and teachers. We are looking for young people who show extraordinary learning ability and/or high creative potential in the areas of: intellectual ability and academic aptitude, the visual and performing arts, problem solving, leadership and social relationships, craftsmanship (woodwork, metalwork, etc.). They may also have a high degree of insight into themselves and others. We would like you to give us information about this candidate that we cannot get elsewhere. What do you see in this person?

Recommended by _____ Date _____
(Signature)

(Address)

Relationship to Applicant _____
(peer, teacher, counselor, etc.)

Note the description of the program. It will help the writer to highlight particular activities and achievements.

* From Horizons Unlimited, Keene State College, Keene, N. H.

Referral Form

Teacher-Community Member Referral Form*

NAME _____ POSITION IN COMMUNITY/SCHOOL _____

STUDENT BEING REFERRED _____

DATE OF REFERRAL _____

Answer the following questions as candidly and accurately as possible. Feel free to use the back of this sheet if necessary.

1. In what capacity have you known the student? Describe fully your relationship with him/her. For how long have you known the student?
2. What characteristics of the student led you to recommend him/her for Project Discovery?
3. Cite examples of the student's ability to work independently in your contact with him/her. Be specific as to nature and difficulty of such independently offered or assigned work.
4. Cite examples of the student's ability to think creatively or to be creative which might suggest a gifted or talented potential.
5. Cite examples of the student's ability to be organized in his/her thinking or work production.
6. Cite examples of the student's commitment to long-term projects or concepts. Is he/she consistent in such commitment? If so, how is such consistency demonstrated?
7. In your opinion how is, or how has the student a potential to be, an asset to your school/community?

Please complete the following checklist by circling the number which best represents the way you view the student. Give an accurate estimate of the student's makeup. Low scores in some areas may not be negative considering the overall picture you have given of the student.

WORKS WELL IN A GROUP	(low)	1	2	3	4	5	(high)
INQUISITIVENESS	(low)	1	2	3	4	5	(high)
AMBITION	(low)	1	2	3	4	5	(high)
LEADERSHIP	(low)	1	2	3	4	5	(high)
ACADEMIC ACHIEVEMENT	(low)	1	2	3	4	5	(high)
ABILITY TO CONCEPTUALIZE	(low)	1	2	3	4	5	(high)

Some of this form could have been "fill in the blank" to separate different kinds of information.

Some indication of the characteristics pertinent to this program would help.

Sometimes items contain too many questions.

Note the reminders of which number is high and which is low.

* From Project Discovery, Oak Hill High School, Wales, Maine.

Student Application Form*

Name _____ Birth Date _____
Last First Middle Da/Mo/Yr

Home Address _____ Telephone _____

School Address _____ Telephone _____

Sex ___ Male ___ Female Social Security Number _____

Present Grade Level 9th ___ 10th ___ 11th ___ 12th ___

Parents' Name _____

Parents' Address _____ Telephone _____

If not living with your parents, give name and address of person with whom you live:

Parents' Work Address(es) _____

_____ Telephone _____

In Case of Emergency, contact: _____

_____ Telephone _____

School Subjects of Major Interest _____

Interests Outside of School _____

Future Plans Beyond High School _____

The following information is *necessary* to complete your Horizons application:

1. Questionnaire (enclosed)
2. *High School transcript* (Have your school mail it directly to Horizons Unlimited, Keene State College, Keene, N.H. 03431)
3. Three written recommendations—*one from a peer, two from teachers, counselors, clergy or other interested adults (non-relatives)*. Recommendation forms are enclosed.
4. Self-portrait (instructions are enclosed)
5. Registration fee of \$20.00. This is part of the total program cost and will be refunded only if you are not selected for the program.

It is a good idea to list the necessary forms as a help to the applicant. A checklist could be made.

* From Horizons Unlimited, Keene State College, Keene, N.H.

Creativity Measures

The following are excerpts from creativity tests and questionnaires to help teachers identify creatively gifted and talented individuals.

Talent Survey Form*

You have talents. Your friends, parents or teachers know about some of them. Some only you know. Please list below what you feel to be your talents. Put a check mark by those talents other people know about in the column so marked. Also put a check next to the talent only you know about in the column marked "No One Else Knows About It."

NAME: _____

TALENT I KNOW I HAVE	OTHER PEOPLE KNOW ABOUT IT	NO ONE ELSE KNOWS ABOUT IT
1. _____		
2. _____		
3. _____		
4. _____		
5. _____		
6. _____		
7. _____		
8. _____		
9. _____		
10. _____		
11. _____		
12. _____		

"Talent" might have been defined a little more, perhaps with an example.

The last column alerts the student to the applicability of talents outside school.

* From Greece Central School District, Greece, N.Y.

Creativity Tests

E. Paul Torrance has described several activities to help determine an individual's creative ability. Examples of these activities follow.*

Ask-and-Guess

One of the clearest and most straightforward models of the creative thinking process is found in the Ask-and-Guess Test, of which there are several different forms. In all forms, subjects are shown a picture and given the following series of instructions:

Asking questions

The next three tasks will give you a chance to see how good you are at asking questions to find out things that you do not know and in making guesses about possible causes and consequences of events. Look at the picture. What is happening? What can you tell for sure? What do you need to know to understand what is happening, what caused it to happen, and what will be the result?

Young children are asked to dictate their responses to an adult, and older children and adults are asked to write theirs. In the written version, the following instructions are given for the first of the three tasks:

On this page, write out all of the questions you can think of about the picture on the page before this one. Ask all of the questions you would need to ask to know for sure what is happening. Do not ask questions that can be answered just by looking at the drawing.

The reader who would like to test himself can get a sheet of paper and respond to the foregoing instructions with the stimulus picture, Figure 1. The time limit for the regular test is five minutes but for this demonstrator form it is three minutes. At the end of this article there is a list of the *common* responses carrying a score of zero.

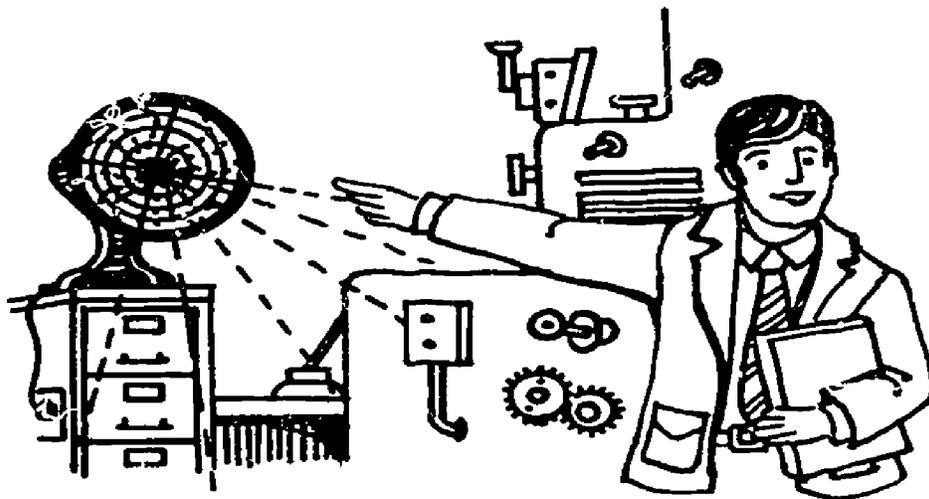


Figure 1

* Excerpted from "Examples and Rationales of Test Tasks for Assessing Creative Abilities" by E. Paul Torrance in *Journal of Creative Behavior* 2, no. 3 (1968).

Guessing causes

After five minutes, subjects are given the following instructions for the second task (Guessing Causes):

In the spaces below, list as many possible causes as you can of the action shown in the picture. You may use things that might have happened just before the event in the picture or something that happened a long time ago and made the event happen. Make as many guesses as you can. Do not be afraid to guess.

Guessing consequences

After another five minutes, the following instructions are given for the third task (Guessing Consequences):

In the spaces below, list as many possibilities as you can of what might happen as a result of what is taking place in the picture. You may use things that might happen right afterwards or things that might happen as a result long afterwards in the future. Make as many guesses as you can. Do not be afraid to guess.

The first task is designed to reveal the subject's ability to sense what he cannot find out from looking at the picture and to ask questions that will enable him to fill in the gaps in his knowledge. The second and third tasks are designed to reveal the subject's ability to formulate hypotheses concerning cause and effect. The number of relevant responses produced by a subject yields a measure of ideational fluency. The number of shifts in thinking or number of different categories of questions, causes, or consequences gives one measure of flexibility. The statistical infrequency of these questions, causes, or consequences or the extent to which the response represents a mental leap or departure from the obvious and commonplace gives one measure of originality. The detail and specificity incorporated into the questions and hypotheses provide one measure of ability to elaborate.

In another task, subjects are asked to produce unusual or provocative questions about common objects such as ice, grass, apples, or mountains. Subjects are encouraged to ask questions that lead to a variety of different answers and that might arouse interest and curiosity in others concerning the object.

Product Improvement Task

The Product Improvement Task calls for the production of clever, interesting and unusual ways of changing a toy stuffed animal (for example, a toy dog like the one in Figure 2) so that it will be more interesting and more fun for children to play with. If you would like to test yourself and see what kind of thinking is involved, try to think of ways of improving the stuffed toy dog. Limit yourself to two and one-half minutes. (In the actual test, ten minutes is allowed for this task.)

You will find a list of the commonplace or zero originality responses listed at the end of this article.

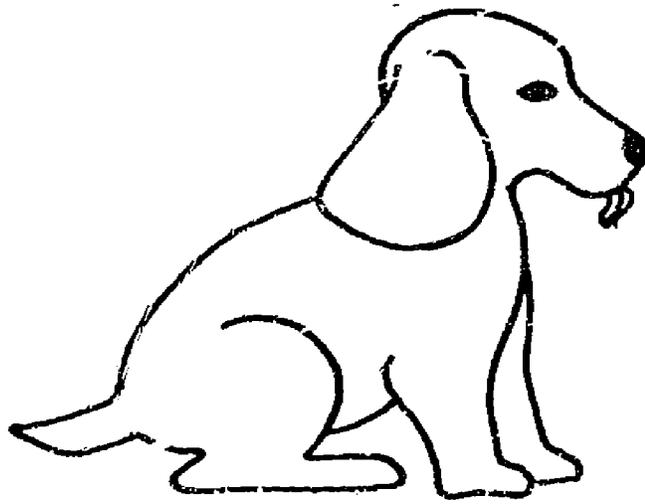


Figure 2

Unusual Uses Task

The Unusual Uses Task calls for interesting and unusual uses of common objects such as junk autos. To understand the kind of thinking that is involved, the reader might spend two and one-half minutes trying to see how many unusual uses of junk autos he can produce. At the end of the article is a list of the common, unoriginal responses that are scored zero for originality.

"Just Suppose"

The Just Suppose task presents the subject with an improbable situation and asks him to think of all of the things that might occur if that improbability really happened. In other words, the subject must "pretend" that it has happened in order to think of its possible consequences. For example, "Just suppose it was raining and all the drops stood still in the air and wouldn't move — and they were solid." Each "Just Suppose" is accompanied by an interesting drawing depicting the improbable situation. The reader might try this one, also, limiting himself to two and one-half minutes. Again, some common, unoriginal responses are listed at the end of this article.

Imaginative Stories

The Imaginative Stories Test calls for writing imaginative stories about animals and people having some divergent characteristic. Subjects are asked to select one from a set of ten titles such as:

- The Flying Monkey
- The Lion That Won't Roar
- The Man Who Cries
- The Woman Who Can but Won't Talk

Sounds and Images

The Sounds and Images Test asks the subject to produce imaginative and original images suggested by each of a series of four sound effects, ranging from a familiar and well-organized sound effect to one consisting of six rather strange and relatively unrelated sounds. The four-sound series is presented three times, and each time the subject is asked to stretch his imagination further.

Mother Goose

My newest preschool battery consists of five problems based on the world-famous Mother Goose rhymes. The four- and five-year-old children are supplied with booklets containing drawings of the five situations and encouraged to color them while they discuss the problems with the examiner. The children's booklets are used only to make the children psychologically comfortable and are retained by them. An examiner's booklet contains a set of standardized encouraging questions to be used to help the child stretch his thinking. The following is an example of a problem the reader might experiment with, using a time limit of two and one-half minutes:

If Boy Blue lost his horn, what are all of the ways that he might use to get the cows out of the corn?

Each of the tasks is based on a rationale developed from some research finding concerning the nature of the creative process, the creative personality, or the conditions necessary for creative achievement. The tasks are designed to involve as many different aspects of verbal creative functioning as possible. Most of the tasks are evaluated for fluency (number of different relevant ideas), flexibility (number of shifts in thinking or different categories of response), originality (number of statistically infrequent responses that show creative intellectual energy), and elaboration (number of different ideas used in working out the details of an idea). These are not factorially pure measures and there is some overlap among them, but it has been found that each makes a useful contribution to an understanding of a child's thinking.

Figural Battery

Although a variety of figural test tasks have been developed, the standardized batteries consist of three tasks, each designed to tap a somewhat different aspect of creative functioning.

Picture construction

The Picture Construction Test is accompanied by the following instructions:

At the bottom of this page is a piece of colored paper in the form of a curved shape. Think of a picture of an object in which this form would be an important part. Then lift up the piece of colored paper and stick it wherever you want it on the next page, just like you would a postage stamp. Then add lines with pencil or crayon to make your picture.

Try to think of a picture that no one else will think of. Keep adding new ideas to your first idea to make it tell as interesting and as exciting a story as you can.

When you have completed your picture, think up a name or title for it and write it at the bottom of the page in the space provided. Make your title as clever and unusual as possible. Use it to help tell your story.

This, as well as the other two figural tasks, can be administered at all educational levels from kindergarten to graduate school and to various occupational groups. It is a task to which kindergartners can respond in groups and one which provides sufficient encouragement to regression to be useful with graduate students and other adults. In each battery a different shape (such as a tear drop or jelly bean) is used as the stimulus object.

Figure completion

The stimulus material for the Figure Completion Test consists of ten incomplete figures and is accompanied by the following instructions:

By adding lines to figures on this and the next page, you can sketch some interesting objects or pictures. Again, try to think of some picture or object that no one else will think of. Try to make it tell as complete and as interesting a story as you can by adding to and building up your first idea. Make up a title for each of your drawings and write it at the bottom of each block next to the number of the figure.

The reader might test himself with the two figures shown in Figure 3 and then turn to the end of the article to see if he is able to get away from the common, obvious, unoriginal ideas.

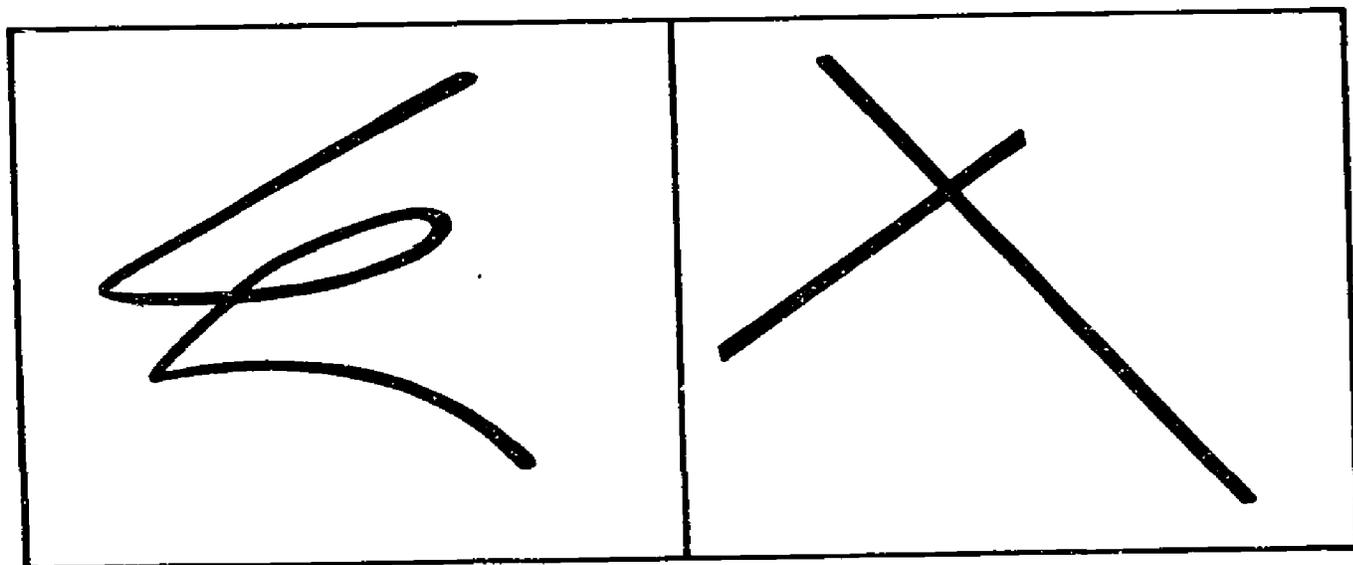


Figure 3

Repeated closed figures

The Repeated Closed Figures Test consists of two or three pages of closed figures such as triangles. The instructions for this version of the test are as follows:

In ten minutes see how many objects or pictures you can make from the triangles. . . . The triangles should be the main part of whatever you make. With pencil or crayon add lines to the triangles to complete your picture. You can place marks inside them, on them, and outside them — whatever you want to do in order to make your picture. Try to think of things that no one else will think of. Make as many different pictures or objects as you can and put as many ideas as you can in each one. Make them tell as complete and as interesting a story as you can.

As with the other two figural tests, ten minutes is allowed for this task, but in the demonstrator version only two and one-half minutes is given. The common, unoriginal responses are listed at the end of this article. . . .

1. Ask Questions

How can it run connected only to wooden drawers?
Why is it plugged into chest/table?
Why is the fan blowing?
Why is it on the chest of drawers?
Who is he (man)?
Is he a teacher?
Whom is he speaking/talking to?
What is he pointing at?
What is he talking about?
Why is he pointing to the fan?
What/what kind of machine is it?
What are the levers/buttons, etc.?
What do the lines represent?
What is in the drawers?

2. Product Improvement (Toy Dog)

Bark, make it
Bell, add on neck, feet, etc.
Bow, add
Color, add or change
Cuddly, make it
Ears, bigger, longer
Eyes, bigger, move, wink, sparkle, glow, etc.
Face, give expression, personality
Fluffy, more like real fur
Fuzzy, make
Larger, longer, taller, etc.; legs longer
Mouth, bigger
Movable parts at joints
Music box inside
Noise, have him make
Nose, bigger
Paws, add, make bigger, etc.
Realistic, make
Ribbon, add brighter color, bigger bow, etc.
Smile, make
Softer
Tail, curl up, make longer
Tongue, longer

3. Unusual Uses (Junk Autos)

Art, abstract, modern sculpture, pop art
Autos, make one from several
Autos, play on playground
Chairs
Demolition derby
Demonstration, warning for drivers
Educational uses. rebuild to learn, give to teenagers to learn about cars
Flower planter
Playground, pretend cars
Racing
Repair to sell

Scrap iron, metal, etc.
Spare parts, see for use on other cars
Swing, tires used for
Tension reducer, smash with hammer
Tires, recap and sell
Toy on playground

4. *Just Suppose (Rain Still and Solid)*

No water
No grass, no leaves on trees, no flowers, no plant life
People would be bumping into them
Earth would be parched
No fish to catch
Sunshiny, no clouds in sky
No travelling
Airplanes could not fly
Couldn't take a bath
No boating, swimming, etc.
No floods
No need for raincoats
Animals would die
No rivers, creeks, etc.

5. *Incomplete Figures*

Figure 3, left:

Abstract figure
Bird(s)
Human (man, woman, child)

Figure 3, right:

Abstract figure
Horse head or horse body
House
Kite

6. *Repeated Triangles*

Amorphous, indistinct figure
Cottage, house, etc.
Design
Human face
Human figure (man, woman, child)
Star (six-point)
Tent, tepee
Tree
Triangle

Teacher Evaluations of Creativity*

Teacher _____ Grade _____
School _____ Date _____

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

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

Which are the least fluent?

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

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

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

Which are the least flexible?

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

* Reproduced from *Torrance Tests of Creative Thinking, Norms—Technical Manual* by E. Paul Torrance (Lexington, Mass.: Personnel Press, 1974).



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

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

Which are the least original?

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

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

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

Which are least able to elaborate?

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

Sources of Instruments

A List of Representative Tests for the Six U.S.O.E. Talent Areas*

U.S.O.E. Talent Area Area I: General Intellectual Ability

Title of Instrument	Age Range	Scores	Time	Publisher ¹	MMY or TIP ² Ref.
INDIVIDUAL TESTS					
Peabody Picture Vocabulary Test (PPVT)	2½-18 years	Mental Age, Deviation I.Q.	10-15 min.	American Guidance Service	7:417
Progressive Matrices (Raven)	5 years and over	Percentiles	60 min.	Psychological Corporation	7:376
Slosson Intelligence Test (SIT)	2 weeks and over	Mental Age, I.Q.	30 min.	Slosson Educational Publications Dublin, N.H. 03444	7:424
Stanford Binet Intelligence Scale	2-18 years	Mental Age, I.Q.	30-90 min.	Houghton-Mifflin Company	7:425
Wechsler Adult Intelligence Scale (WAIS)	16-64 years	Verbal I.Q. Performance I.Q. Full Scale I.Q.	60-90 min.	Psychological Corporation	7:429
Wechsler Intelligence Scale for Children— Revised (WISC)	6-16 years	Verbal I.Q. Performance I.Q. Full Scale I.Q.	60-90 min.	Psychological Corporation	7:431
Wechsler Primary and Preschool Scale of Intelligence (WPPSI)	4-6½ years	Verbal I.Q. Performance I.Q. Full Scale I.Q.	60-90 min.	Psychological Corporation	7:434

¹ A list of the test publishers follows.

² MMY reference is the **Mental Measurements Yearbooks** volume and entry number for the latest review of the test listed. TIP refers to **Tests in Print II**. It is recommended that MMY and TIP citations be reviewed before an instrument is used.

*From "Identification and Evaluation Procedures for Gifted and Talented Programs" by Ron Rubenzer, *Gifted Child Quarterly* 23, no. 2 (Summer 1979) 313-16.

Title of Instrument	Age Range	Scores	Time	Publisher	MMY or TIP Ref.
GROUP TESTS					
California Tests of Mental Maturity 1963 Revision (CTMM)	4-16	Standard Scores	90 min.	California Test Bureau	7:338
Large-Thorndike Intelligence Tests	K-12	Verbal and Nonverbal Deviation I.Q. Age, grade, percentiles	K-3rd = 35 min. 4-12th = 90 min.	Houghton-Mifflin Company	7:360
Otis-Lennon Mental Ability Test	K-16	Deviation I.Q. Percentiles & Stanines	30 min.	Harcourt, Brace & World	7:370
Short Form of Academic Aptitude	1.5-12	Verbal and Nonverbal Total	30-45 min.	CTB/McGraw-Hill Book Co. 330 W. 42nd St. New York, N.Y. 10036	7:387

U.S.O.E. Area II: Specific Academic Aptitude

INDIVIDUAL TESTS					
Gates-MacGinitie Reading Tests	K-12	Vocabulary- comprehension	120 min. (8 sub- tests)	Teachers College Press	7:689
Key Math Tests	K-7	15 scores involving content, operations, applications	30 min.	American Guidance Service	721 TIP
Metropolitan Readiness Tests	K-1	7 or 8 scores	75 min.	Harcourt, Brace & World	7:757
Peabody Individual Achievement Test (PIAT)	K-12	6 scores—math, reading comp., spelling, gen. info. total	30-40 min.	American Guidance Service	7:17

Title of Instrument	Age Range	Scores	Time	Publisher	MMY or TIP Ref.
Woodcock Reading Mastery Test	K-12	6 scores—letter and word ident., word attach, word comp., passage comp. total	45 min.	American Guidance Service	1656 (TIP)
GROUP TESTS					
Iowa Tests of Basic Skills	3-9	Grade Equivs., Percentiles and others	279 min. (4 sessions)	Science Research Associates	6:13
Metropolitan Achievement Test	1-12	Grade Equivs., Percentiles and others	227-316 min. (in sessions)	Harcourt, Brace & World	7:14
Sequential Tests of Educational Progress (STEP)	4-14	Grade Equivs., Percentiles and others	240 min. (3 sessions)	Educational Testing Service (Cooperative Test Division)	6:25
Stanford Achievement Test	1-12	Grade Equivs., Percentiles and others	303 min. (in sessions)	Harcourt, Brace & World	7:25
TEACHER SCREENING DEVICES					
Cupertino School District, Extended Learning Program: Screening and Nomination Form	K-12	Weighted scores in cognitive & non-cognitive areas.	Not indicated.	Programs for Gifted Students Educational Improvement Center Woodbury Glassboro Road—Box 426 Pitman, N.J. 08071	

Title of Instrument	Age Range	Scores	Time	Publisher	MMY or TIP Ref.
Multi-Dimensional Screening Device (MDS)	2-7	Numerical rating in 10 talent areas. Appropriate for Disadvantaged.	2-3 hrs. whole class	Hella Kranz Fairfax County Public Schools 10700 Page Ave. Fairfax, Va. 22030	
Reservoir Model for Identification of the Gifted and Talented	K-12	A general screening process.	Not indicated.	Gowan, J. C. "How to Identify Students for a Gifted Child Program," <i>Gifted Child Quarterly</i> , XIX, (3), 1975, 260-263.	
Scales for Rating the Behavioral Characteristics of Superior Students	K-12	Numerical rating in 10 talent areas.	Not indicated.	Joseph Renzulli Creative Learning Press P.O. Box 320 Mansfield Center, Ct. 06250	

U.S.O.E. Area III: Creative or Productive Thinking

INDIVIDUAL TESTS

Creativity Tests for Children (CTC)	4-6	10 tests—measures Guilford's divergent production abilities.		Sheridan Psychological Services	554 (TIP)
Remote Associates Test (RAT)	9-16, and adults	Measures ability to think creatively	40-45 min.	Houghton-Mifflin Co.	7:445
Torrance Tests of Creative Thinking	K-Grad. School	Verbal & Pictorial scores in fluency, flexibility, originality, & elaboration	Verbal— 60 min. Nonverbal— 45 min. (can be given without time constraints)	Personnel Press 191 Spring St. Lexington, Mass. 02173	7:448

Title of Instrument	Age Range	Scores	Time	Publisher	TAMU or TIP Ref.
GROUP TESTS					
Alpha-Biographical Inventory	9-12	Creativity; Academic performance in College.	90-120 min.	Prediction Press P.O. Box 298 Greensboro, N.C. 27402	7:975
The Adjective Check List	9-16, and adults	24 scores related to creativity	15-20 min.	Consulting Psychologists Press, Inc.	7:38

U.S.O.E. Area IV: Leadership Ability

INDIVIDUAL TESTS

Personal Interview Techniques	9-12			Research and Guidance Laboratory University of Wisconsin Madison, Wisconsin Educational Science I Bldg. 1025 W. Johnson Street Madison, Wisconsin	
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GROUP TESTS

Leadership scale of the Multi-dimensional Screening Device

REFER TO SPECIFIC ACADEMIC APTITUDE SECTION.

Leadership scale of the Scales for Rating the Behavioral Characteristics of Superior Students

REFER TO SPECIFIC ACADEMIC APTITUDE SECTION.

U.S.O.E. Area V: Visual and Performing Arts

Title of Instrument	Age Range	Scores	Time	Publisher	MMY or TIP Ref.
INDIVIDUAL TESTS					
Music: Seashore Measure of Musical Talents, Revised Edition	4-16	6 scores—pitch, loudness, rhythm, time, timbre, tonal measure	60 min.	Psychological Corp.	6:353
Art: Horn Art Aptitude Inventory	12-16, and adults	Scribbling and doodling, and imagery.	50 min.	Horn-Stoeltling Co. 1350 South Kostner Avenue Chicago, Ill. 60623	5:242
Meier Art Tests	7-16, and adults	Percentile Norms for Art Judgment Aesthetic Perception	60 min.	Bureau of Educational Research and Service University of Iowa Iowa City, Iowa 25240	7:240

U.S.O.E. Area VI: Psychomotor Ability

INDIVIDUAL TEST					
Performance Scale I.Q.'s of the Wechsler Series	REFER TO GENERAL INTELLECTUAL ABILITY (INDIVIDUAL TESTS)				
GROUP TESTS					
Guilford Zimmerman Aptitude Survey	9-16, and adults	7 aptitude areas investigated	163 min. (7 tests)	Sheridan Psychological Services	6:772
Differential Aptitude Tests	8-12	Stanines and Percentiles	240 min. (2-6 sess.)	Psychological Corp.	7:673

100

Selected Test Publishers

American Guidance Service, Inc., Publishers' Building, Circle Pines, Minn. 55014.
California Test Bureau, Del Monte Research Park, Monterey, Calif. 93940.
Educational Testing Service, Princeton, N.J. 08540.
Harcourt, Brace & World, Inc., 757 Third Avenue, New York, N.Y. 10017.
Houghton Mifflin Company, 110 Tremont Street, Boston, Mass. 02107.
Psychological Corporation, 304 East 45th Street, New York, N.Y. 10017.
Science Research Associates, Inc., 259 East Erie Street, Chicago, Ill. 60611.
Sheridan Psychological Services, P.O., Box 837, Beverly Hills, Calif. 90213.
Teachers College Press, Teachers College, 525 West 120th Street, New York,
N.Y. 10027.

MMY and TIP references can be located in the following publications:

- Buros, O.K. (Ed.) *Tests in Print II*, Highland Park, New Jersey, The Gryphon Press, 1974.
- Buros, O.K. (Ed.) *The Seventh Mental Measurements Yearbook*, Highland Park, New Jersey, The Gryphon Press, 1972.
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Tests for Assessing Higher-Level Thinking Behavior

TEST	AUTHOR	VARIABLE TESTED	SOURCE	AGE
1. Butch and Slim, Test of Propositional Logic	J. Ward	Analysis (Propositional Logic)	J. Ward, "The Saga of Butch and Slim," <i>British Journal of Educational Psychology</i> 42:267-289, 1972	8-adolescent
2. Classification Tasks	Mary Nixon	Analysis	Senior Advisory Officer Psychological Services, Australian Council for Educational Research, P.O. Box 219, Hawthorn, Victoria, Australia 3122	4-8 years
3. Cornell Class, Reasoning Test, Form X	Robert H. Ennis William L. Gardiner Richard Morrow Dieter Paulus Lucille Ringel	Evaluation (class reasoning)	Illinois Critical Thinking Project, 371 Education Building, University of Urbana-Champaign, Urbana, Illinois 61801	10-18 years
4. Cornell Conditional Reasoning Test, Form X		Evaluation (class reasoning)	Illinois Critical Thinking Project, 371 Education Building, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801	10-18 years
5. Inquiry Skill	Daniel Solomon Arthur Kendall	Synthesis (developing a strategy)	Daniel Solomon, Psychological Services Section, Montgomery County Public Schools, 850 Hungerford Drive, Rockville, Maryland 20850	9-15 years

* Adapted from a list compiled by Donald Nasca, 1978.

TEST	AUTHOR	VARIABLE TESTED	SOURCE	AGE
6. Literature Formal Reasoning Test	William M. Bart	Analysis (formal reasoning)	William M. Bart, Department of Psychological Foundations, College of Education, 330 Burton Hall, University of Minnesota, Minneapolis, Minnesota 55455	14 and up
7. Means-Ends Problem-Solving (MEPS)	Jerome J. Platt George Spivack	Synthesis	Division of Research and Evaluation, Department of Mental Health Sciences, Hahnemann Medical College and Hospital, 314 North Broad Street, Philadelphia, Pennsylvania 19102	6-adult
8. Object Sorting Task (OST)	James A. Dunn	Synthesis (fluency)	The OST: Theory, Instrument and Norms, James A. Dunn, American Institute for Research, P.O. Box 1113, Palo Alto, California 94302	5 and up
9. Ordering Tasks	Barbara Brandes Susan Rindler	Analysis	Research for Better Schools, Inc., Public Information Office, 1700 Market Street, Philadelphia, Pennsylvania 19103	10-14 years
10. Paulus Conditional Reasoning Test, Form Z (assessing)	Dieter Paulus	Evaluation (conditional reasoning)	Dieter H. Paulus, U-64, Department of Educational Psychology, University of Connecticut, Storrs, Connecticut 06268	12-16 years

TEST	AUTHOR	VARIABLE TESTED	SOURCE	AGE
11. Pictorial Class Inclusion Problems	Giyoo Hatano Keiko Kuhara	Analysis (class inclusion)	A complete manual of the test can be obtained from Giyoo Hatano, 7-12 Honkomgome-6, Bunkyo-ku, Tokyo, 113, Japan (no charge)	5-7 years
12. Purdue Elementary Problem Solving Inventory	John Feldhusen John Houtz Susan Ringenbach	Multiple (Analysis, Synthesis, and Evaluation)	John Feldhusen, Educational Psychology and Research Section, Purdue University, SCC-G Lafayette, Indiana 47907	5-11 years
13. Ross Test of Higher Cognitive Processes	John D. Ross Catherine Ross	Analysis	Academic Therapy Publications, P.O. Box 899, 1539 4th Street, San Rafael, California 94901	Intermediate
14. The Tests of Pre-Literature Thinking Aptitude	Rachel S. Ball	Multiple (Analysis and Synthesis)	"A Longitudinal Assessment of Thinking Ability of Pre-literate Children During a 2-Yr. Period," Rachel Ball, Arizona State University, Tempe, Arizona 85281	3-5 years
15. Khatena-Torrance Creative Perception Inventory	Khatena and Torrance	Affective	Manual for Khatena-Torrance Creative Perception Inventory, Stoeltling Company, 1350 South Kostner Avenue, Chicago, Illinois 60623	Adolescent and up
16. Scale of Academic Curiosity	Derek C. Vidler Hashim R. Rawan	Affective	Derek Vidler, Box 1661, Hunter College of City University of New York, New York, New York 10021	8 and up

TEST	AUTHOR	VARIABLE TESTED	SOURCE	AGE
17. Ascher-Gallagher System	Mary Jane Ascher and others	Cognitive	Mary J. Ascher, et al., "A System for Classifying Thought Processes in the Context of Classroom Verbal Interaction," Institute for Research on Exceptional Children, University of Illinois, Urbana, Illinois	Any classroom
18. Cognitive Levels Analysis: Interaction Model	Kenneth Shrable Douglas Minnis	Cognitive	Kenneth Shrable and Douglas Minnis, "Interacting in the Interrogative," <i>Journal of Teacher Education</i> 21: 201-12, 1969	Any classroom
19. Florida Taxonomy of Cognitive Behaviors	Bob Burton Brown and others	Cognitive	Brown, Bob Burton, et al., "The Florida Taxonomy of Cognitive Behaviors: Directions," University of Florida, Gainesville, 1967	Any classroom
20. Taba System	Hilda Taba and others	Cognitive, Affective, and Procedural		Any classroom
21. Waimon System	Morton D. Waimon	Cognitive, Affective, and Procedural	Morton D. Waimon and Henry J. Hermanzvicz, "Helping Prospective Teachers Classify and Study Teaching Behavior," <i>Teachers College Journal</i> 38: 97-102, 1966	Any classroom

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Periodicals

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Gifted Child Quarterly

National Association for Gifted Children

217 Gregory Drive

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Exceptional Children

Council for Exceptional Children

1920 Association Drive

Reston, VA 22091

National/State Leadership Training Institute on the Gifted and
Talented *Bulletin*
Civic Center Tower Building
316 West Second Street, Suite PH-C
Los Angeles, CA 90012

Education Unlimited
1834 Meetinghouse Road
Boothwyn, PA 19061

Dromenon
Box 2244
New York, NY 10011

Media

Sit Down, Shut Up, or Get Out (film)
Broadcasting and Film Commission
c/o National Council of Churches
475 Riverside Drive
New York, NY 10027

Understanding the Gifted (film)
Churchill Films
662 North Robertson Boulevard
Los Angeles, CA 90069

More Than a Glance (film)
Who Is the Gifted Child? (filmstrip)
Audiovisual Services
Ventura County Superintendent of Schools
County Office Building
535 East Main Street
Ventura, CA 93001

Art and Multi-Sensory Experience (filmstrip series)
Educational Frontiers Associates
Avenel, NJ 07001

Who Are These People? (film)
Scott Anderson Productions
Reston, VA 22091

Simple Gifts (videotapes)
University of Wisconsin Telecommunications Center
WHA-TV
Madison, WI 53706

Threat or Invitation:

Characteristics of Gifted and Talented

Identification of Gifted and Talented

(videotapes by Frederick B. Tuttle, Jr., and Laurence A. Becker)

Educational Communications Center

State University of New York, College at Brockport

Brockport, NY 14420

Talks with Teachers About Gifted and Talented Students:

Characteristics

Identification

Parents of the Gifted and Talented: A Teacher's View

A Parent's View of Gifted and Talented Children

(audiotapes)

National Education Association

1201 16th Street, NW

Washington, DC 20036

ACTIVITIES FOR TEACHERS

1. RIPPLES

We are all prospectors—searching for rare gems. Months of digging, scratching, clawing, sweating may uncover one—but what a one!

When I want him to call on me, I look sleepy.

(A student's strategy)

I'm Me

I'm me,
That's all I can be.
Not stamped out of cookie cutter,
But like a silver blossom made to flutter.
Plain and simple me.
I can't help it,
I'm me,
Who else can I be?

(Lillian M., quoted in "Recent Insights on the Culturally Different Gifted" by Catherine B. Bruch and J. A. Curry, *Gifted Child Quarterly* 22: 374-93; Fall 1978.)

Birthday Poem for a Student-Turned-Colleague

Pursuing chimeras of apathy,
Bearing the brunt of tensions not your own,
A restless leader impatient with ennui,
You once in middy stood: a girl half-grown.
Then, inchoate dreams and netted thoughts
Struggled toward a metamorphosis
Into bright wings of fancy. And painfully-wrought,
You poured your soul into such urns as this.
I saw each urn take form, the butterflies
Take flight, and had a privilege only those
Who teach may feel—to watch with pleased surprise
A budding talent bloom into a rose:

My birthday gift for you, had I the power,
Would be you'd have, as teacher, one such flower.

(Joan Mellard, *English Journal* 67, no. 5; May 1978).

Add your thought and comments.

2. EXAMINATION OF INSTRUMENTS

In the space following each type of instrument or method, list the administration requirements, what is measured, advantages, and limitations. The example illustrates the activity.

Group IQ Tests

Instrument Examined: California Tests of Mental Measurement

Administration Requirements: Untrained supervisor of testing situation, individual or machine scoring, exact reading of directions, no extra help or prodding.

What Is Measured: General aptitude or learning potential.

Advantages: Ease of administration to large groups, less expensive than individual tests, consistency of scoring.

Limitations: Students cannot explain their reasons of answers given, lines of reasoning cannot be pursued, congruent thinking seems to be favored and divergent thinking penalized . . .

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Achievement Tests

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Individualized IQ Tests

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Behavioral Checklists

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Advantages: _____

Limitations: _____

Notes: _____

Biographical Inventories

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Teacher Nominations

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Creativity Tests

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Culture Fair Tests

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Transcripts

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Parent Nominations

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Peer Nominations

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

Self-Nominations

Instrument Examined: _____

Administration Requirements: _____

What Is Measured: _____

Advantages: _____

Limitations: _____

Notes: _____

3. SELECTION OF INSTRUMENTS AND METHODS

After surveying several samples of instruments and methods in each area, you should be ready to select those which you believe will best identify students for your particular program. These instruments should help identify the characteristics most pertinent to your program and curriculum. Using those characteristics you believe to be most important (see Supplementary Materials, Lists of Characteristics), list the instruments you would use to identify students for your program.

In the spaces given fill in the information for the specific instruments or device selected.

Objective Instruments (e.g., group IQ, achievement)

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Individual Methods (e.g., individual IQ, biographical inventory, behavioral checklist)

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Other Methods (grades, teacher nominations, student nominations)

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Specific Test: _____

Pertinent Characteristics Identified: _____

Notes: _____

Acknowledgments (Continued)

Programs for the Gifted Rating Scales for Kindergarten Students and First Grade Students; Rating Scales #1-4 (Grades 2-6 only); and Teacher Recommendation Checklist—Junior High (revised 1977), prepared by Department of Exceptional Child Education, Dade County (Florida) Public Schools. Checklist for Recommending Gifted and Creative Students (Middle Grades and Above), by William B. Cummings, San Francisco Unified School District Programs for Mentally Gifted Minors. "Checklist for the Identification of Culturally Disadvantaged Underachieving Mentally Gifted Minors" by Paul Plowman, California State Department of Education, Sacramento, 1968. "Characteristics of Able Disadvantaged Pupils" from Los Angeles Unified School District. Self-Portrait, Autobiographical Questionnaire, Recommendation Form, and Student Application Form from Horizons Unlimited, Keene State College, Keene, New Hampshire. Sample items from *Biographical Inventory: Form U*, Institute for Behavioral Research in Creativity (IBRIC), Salt Lake City, Utah, 1976. Parent Questionnaire, including Examiner Instructions, by Margot Nicholas Parrot as part of a grant awarded to the Bucksport/Orland Gifted Task Force by the Maine Department of Educational and Cultural Services from funding obtained from the U.S. Office of Gifted and Talented, Washington, D.C., June 1978. Peer Referral Form and Teacher-Community Member Referral Form from Project Discovery, Oak Hill High School, Wales, Maine. Peer Identification-Creativity Forms: Elementary and Secondary by John Ferrell, Director, and Glenn Poshard, Consultant, Franklin County Region 7 Area Service Center for Educators of Gifted Children, Marion, Illinois. Talent Survey Form from the Delphi Program, Greece Central School District, Greece, New York. Excerpt from "Examples and Rationales of Test Tasks for Assessing Creative Abilities" by E. Paul Torrance, from *Journal of Creative Behavior* 2, no. 3 (1968); copyright © 1968 by the Creative Education Foundation, Inc. "Teacher Evaluations of Creativity" from *Torrance Tests of Creative Thinking, Norms-Technical Manual* by E. Paul Torrance; copyright © 1974 by Personnel Press, Lexington, Massachusetts. "A List of Representative Tests for the Six U.S.O.E. Talent Areas" from "Identification and Evaluation Procedures for Gifted and Talented Programs" by Ron Rubenzer; © 1979 by National Association for Gifted Children; reprinted by permission from the *Gifted Child Quarterly* 23, no. 2 (Summer 1979), pp. 313-16. "Tests for Assessing Higher-Level Thinking Behavior" adapted from list compiled by Donald Nasca, Bureau of Educational Field Services, State University of New York, College at Brockport, 1978. "I'm Me" by Lillian M., quoted in "Recent Insights on the Culturally Different Gifted" by Catherine B. Bruch and J. A. Curry in *Gifted Child Quarterly*, Fall 1978; copyright © 1978 by National Association for Gifted Children. "Birthday Poem for a Student-Turned-Colleague" by Joan Mellard in *English Journal*, May 1978; copyright © 1978 by the National Council of Teachers of English.