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What Makes Giftedness? Reexamining a Definition

by Joseph S. Renzulli

Throughout recorded history and undoubtedly even before records were kept, people have always been interested in men and women who display superior ability. As early as 2200 B.C. the Chinese had developed an elaborate system of competitive examinations to select outstanding persons for government positions (DuBois, 1970), and down through the ages almost every culture has been fascinated by its most able citizens. Although the areas of performance in which one might be recognized as a gifted person are determined by the needs and values of the prevailing culture, scholars and laypersons alike have debated (and continue to debate) the age-old question: What makes giftedness?

The purpose of this article is therefore threefold. First, I shall analyze some past and current definitions of giftedness. Second, I shall review studies that deal with characteristics of gifted individuals. Finally, I shall present a new definition of giftedness that is operational, i.e., usefut to school personnel, and defensible in terms of research findings.

The Definition Continuum

Numerous conceptions and countless definitions of giftedness have been put forth over the years. One way of analyzing existing definitions is to view them along a continuum ranging from “conservative” to “liberal,” i.e., according to the degree of restrictiveness used in determining who is eligible for special programs and services.

Restrictiveness can be expressed in two ways. First, a definition can limit the number of performance areas that are considered in determining eligibility for special programs. A conservative definition, for example, might limit eligibility to academic performance only and exclude other areas such as music, art, drama, leadership, public speaking, social service, and creative writing. Second, a definition may specify the degree or level of excellence one must attain to be considered gifted.

At the conservative end of the continuum is Lewis Terman’s definition of giftedness, “the top 1% level in general intellectual ability, as measured by the Stanford-Binet Intelligence Scale or a comparable instrument” (Terman et al., 1926, p.43).

In this definition restrictiveness is present in terms of both the type of performance specified (i.e., how well one scores on an intelligence test) and the level of performance one must attain to be considered gifted (top 1%). At the other end of the

continuum may be found more liberal definitions, such as the following one by Paul Witty:

> There are children whose outstanding potentialities in art, in writing, or in social leadership can be recognized largely by their performance. Hence, we have recommended that the definition of giftedness be expanded and that we consider any child gifted whose performance, in a potentially valuable line of human activity, is consistently remarkable. (Witty, 1958, p. 62)

Although liberal definitions have the obvious advantage of expanding the conception of giftedness, they also open up two "cans of worms" by introducing the values issue (What are the potentially valuable lines of human activity?) and the age-old problem of subjectivity in measurement.

In recent years the values issue has been largely resolved. There are very few educators who cling to a "straight IQ" or purely academic definition of giftedness. "Multiple talent" and "multiple criteria" are almost the bywords of the present-day gifted student movement, and most educators would have little difficulty in accepting a definition that includes almost every area of human activity that manifests itself in a socially useful form.

The problem of subjectivity in measurement is not as easily resolved. As the definition of giftedness is extended beyond those abilities clearly reflected in tests of intelligence, achievement, and academic aptitude, it becomes necessary to put less emphasis on precise estimates of performance and potential and more emphasis on the opinions of qualified human judges in making decisions about admission to special programs. The issue boils down to a simple and yet very important question: How much of a trade-off are we willing to make on the objective/subjective continuum in order to allow recognition of a broader spectrum of human abilities? If some degree of subjectivity cannot be tolerated, then our definition of giftedness and the resulting programs will logically be limited to abilities that can only be measured by objective tests.

The USOE Definition

In recent years the following definition set forth by the U.S. Office of Education (USOE) has grown in popularity, and numerous states and school districts throughout the nation have adopted it for their programs:

> Gifted and talented children are those … who by virtue of outstanding abilities are capable of high performance. These … children … require differentiated eductional programs and/or services beyond those normally provided by the regular school program ill order to realize their [potential] contribution to self and society.

> Children capable of high performance include those who have demonstrated any of the following abilities or aptitudes, singly or in combination: 1) general intellectual ability, 2) specific academic aptitude, 3) creative or productive thinking, 4) leadership ability, 5) visual and performing arts aptitude, 6) psychomotor ability. (Marland, 1972, definition edited for clarity)

The USOE definition has served the very useful purpose of calling attention to a wider variety of abilities that should be included in a definition of giftedness, but at the same time ,it has presented some major problems. The first lies in its failure to include nonintellective (motivational) factors. That these factors are important is borne out by an overwhelming body of research, which I shall consider later.

A second and equally important problem relates to the nonparallel nature of the six categories included in the definition. Two of the six categories (specific academic aptitude and visual and performing arts aptitude) call attention to fields of human endeavor or general performance areas in which talents and abilities are manifested. The remaining four categories are more nearly processes that may be brought to bear on performance areas. For example, a person may bring the process of creativity to bear on a specific aptitude (e.g., chemistry) or a visual art (e.g., photography). Or the processes of leadership and general intelligence might be applied to a performance area such as choreography or the management of a high school yearbook. In fact, it can be said that processes such as creativity and leadership do not exist apart from a performance area to which they can be applied.

A third problem with the definition is that it tends to be misinterpreted and misused by practitioners. It is not uncommon to find educators developing entire identification systems based on the six USOE categories and in the process treating them as if they were mutually exclusive. What is equally distressing is that many people “talk a good game” about the six categories but continue to use a relatively high intelligence or aptitude score as a minimum requirement for entrance into a special program. Although both of these problems result from misapplication rather than from the definition itself; the definition is not entirely without fault, because it fails to give the kind of guidance necessary for practitioners to avoid such pitfalls.

The Three-Ring Conception

Research on creative/productive people has consistently shown that although no single criterion should be used to identify giftedness, persons who have achieved recognition because of their unique accomplishments and creative contributions possess a relatively well-defined set of three interlocking clusters of traits. These clusters consist of above-average though not necessarily superior general ability, task commitment, and creativity (see Figure 1). It is important to point out that no single cluster “makes giftedness.” Rather, it is the interaction among the three clusters that research has shown to be the necessary ingredient for creative/productive accomplishment. This interaction is represented by the shaded portion of Figure 1. It is also important to point out that each cluster is an “equal partner” in contributing to giftedness. This point is important. One of the major errors that continues to be made in

identification procedures is overemphasis on superior abilities at the expense of the other two clusters of traits.

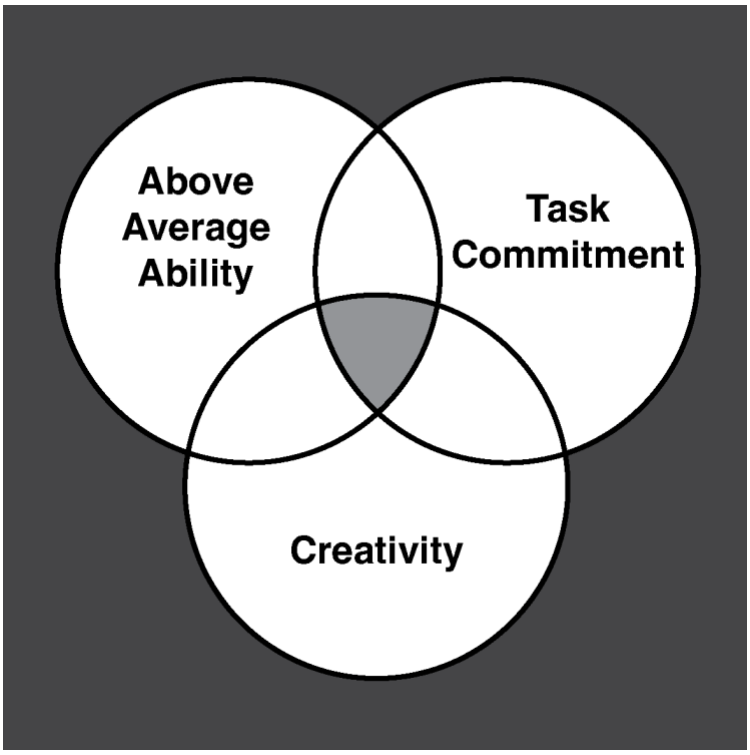


Figure 1. The Ingredients of Giftedness

Above-Average General Ability

Although the influence of intelligence, as traditionally measured, quite obviously varies with areas of achievement, many researchers have found that creative accomplishment is not necessarily a function of measured intelligence. In a review of several research studies dealing with the relationship between academic aptitude tests and professional achievement, M. A. Wallach has concluded that:

> Above intermediate score levels, academic skills assessments are found to show so little criterion validity as to be a questionable basis on which to make consequential decisions about students' futures. What the academic tests do predict are the results a person will obtain on other tests of the same kind. (Wallach, 1976, p. 57)

Wallach goes on to point out that academic test Scores at the upper ranges—precisely the score levels that are most often used for selecting persons for entrance into special programs—do not necessarily reflect the potential for creative/productive accomplishment. He suggests that test scores be used to screen out persons who score in the lower ranges and that beyond this point decisions be based on other indicators of potential for superior performance.

Numerous research studies support Wallach's finding that there is little relationship between test scores and school grades on the one hand and real world accomplishments on the other (Bloom, 1963; Harmon, 1963; Hudson, 1960; Mednick, 1963; Parloff, Datta, Kleman, & Handlon, 1968; Richards, Holland, & Lutz, 1967; Wallach & Wing, 1969). In fact, a study dealing with the prediction of various dimensions of achievement among college students, made by J. L. Holland and A. W. Astin, found that:

> … getting good grades in college has little connection with more remote and more socially relevant kinds of achievement; indeed, in some colleges, the higher the student's grades, the less likely it is that he is a person with creative potential. So it seems desirable to extend our criteria of talented performance. (Holland & Astin, 1962, pp.132–133)

A study by the American College Testing Program titled "Varieties of Accomplishment After College: Perspectives on the Meaning of Academic Talent" concluded:

> The adult accomplishments were found to be uncorrelated with academic talent, including test scores, high school grades, and college grades. However, the adult accomplishments were related to comparable high school nonacademic (extracurricular) accomplishments. This suggests that there are many kinds of talents related to later success which might be identified and nurtured by educational institutions. (Munday & Davis, 1974, p. 2)

The pervasiveness of this general finding is demonstrated by D. P. Hoyt, who reviewed 46 studies dealing with the relationship between traditional indications of academic success and post-college performance in the fields of business, teaching, engineering, medicine, scientific research, and other areas such as the ministry, journalism, government, and miscellaneous professions (Hoyt, 1965). From this extensive review, Hoyt concluded that traditional indications of academic success have no more than a very modest correlation with various indicators of success in the adult world. He observes, "There is good reason to believe that academic achievement (knowledge) and other types of educational growth and development are relatively independent of each Other."

These studies raise some basic questions about the use of tests in making selection decisions. The studies clearly indicate that vast numbers and proportions of our most productive persons are not those who scored at the ninety-fifth or above percentile on standardized tests, nor were they necessarily straight-A students who discovered early how to play the lesson-learning game. In other words, more creative/productive persons come from below the ninety-fifth percentile than above it, and if such cut-off scores are needed to determine entrance into special programs, we may be guilty of actually discriminating against persons who have the greatest potential for high levels of accomplishment.

Task Commitment

A second cluster of traits that are consistently found in creative/productive persons constitutes a refined or focused form of motivation known as task commitment. Whereas motivation is usually defined in terms of a general energizing process that triggers responses in organisms, task commitment represents energy brought to bear on a particular problem (task) or specific performance area.

The argument for including this nonintellective cluster of traits in a definition of giftedness is nothing short of overwhelming. From popular maxims and autobiographical accounts to hard-core research findings, one of the key ingredients that has characterized the work of gifted persons is the ability to involve oneself totally in a problem or area for an extended period of time.

The legacy of both Sir Francis Galton and Lewis Terman clearly indicates that task commitment is an important part of the making of a gifted person. Although Gallon was a strong proponent of the hereditary basis for what he called “natural ability,” he nevertheless subscribed strongly to the belief that hard work was part and parcel of giftedness:

> By natural ability I mean those qualities of intellect and disposition which urge and qualify a man to perform acts that lead to reputation. I do not mean capacity without zeal, nor zeal without capacity, nor even a combination of both of them, without an adequate power of doing a great deal of very laborious work. But I mean a nature which, when left to itself, will, urged by an inherent stimulus, climb the path that leads to eminence and has strength to reach the summit—on which, if hindered or thwarted, it will fret and strive until the hindrance is overcome, and it is again free to follow its laboring instinct. (Galton, as quoted in Albert,1975, p. 142).

Terman’s monumental studies undoubtedly represent the most widely recognized and frequently quoted research on the characteristics of gifted persons. Terman’s studies, however, have unintentionally left a mixed legacy, because most persons have dwelt (and continue to dwell) on “early Terman” rather than on the conclusions he reached after several decades of intensive research. Therefore it is important to consider the following conclusion, reached after 30 years of follow-up studies on his initial population:

> … [A] detailed analysis was made of the 150 most successful and 150 least successful men among the gifted subjects in an attempt to identify some of the nonintellectual factors that affect life success…. Since the less successful subjects do not differ to any extent in intelligence as measured by tests, it is clear that notable achievement calls for more than a high order of intelligence.

> The results [of the follow-up] indicated that personality factors are extremely important determiners of achievement…. The four traits on which [the most and least successful groups] differed most widely were *persistence in the accomplishment of ends, integration toward goals, self-confidence, and freedom from inferiority feelings*. In the total picture the greatest contrast between the two groups was in all-round emotional and social adjustment and in drive to achieve. (Terman, 1959, p. 148, emphasis added)

Although Terman never suggested that task commitment should replace intelligence in our conception of giftedness, he did state that "intellect and achievement are far from perfectly correlated."

Several more recent studies support the findings of Galton and Terman and have shown that creative/productive persons are far more task oriented and involved in their work than are people in the general population. Perhaps the best known of these studies is the work of A. Roe and D. W. MacKinnon. Roe conducted an intensive study of the characteristics of 64 eminent scientists and found that *all* of her subjects had a high level of commitment to their work (Roe, 1952). MacKinnon pointed out traits that were important in creative accomplishments: "It is clear that creative architects more often stress their inventiveness, independence, and individuality, their *enthusiasm, determination,* and *industry*" (MacKinnon, 1965, emphasis added).

Extensive reviews of research carried out by J. C. Nicholls, 1972 and H. G. McCurdy, 1960 found patterns of characteristics that were consistently similar to the findings reported by Roe and MacKinnon. Although the researchers cited thus far used different procedures and dealt with a variety of populations, there is a striking similarity in their major conclusions. First, academic ability (as traditionally measured by tests or grade-point averages) showed limited relationships to creative/productive accomplishment. Second, nonintellectual factors, and especially those that relate to task commitment, consistently played an important part in the cluster of traits that characterize highly productive people. Although this second cluster of traits is not as easily and objectively identifiable as are general cognitive abilities, they are nevertheless a major component of giftedness and should therefore be reflected in our definition.

Creativity

The third cluster of traits that characterize gifted persons consists of factors that have usually been lumped together under the general heading of "creativity." As one reviews the literature in this area, it becomes readily apparent that the words "gifted," "genius," and "eminent creators" or "highly creative persons" are used synonymously. In many of the research projects discussed above, the persons ultimately selected for intensive study were in fact recognized because of their creative accomplishments. In MacKinnon's study, for example, panels of qualified judges (professors of architecture and editors of major American architectural journals) were asked first to nominate and later to rate an initial pool of nominees, using the following dimensions of creativity: 1) originality of thinking and freshness of approaches to architectural problems, 2)

constructive ingenuity, 3) ability to set aside established conventions and procedures when appropriate, and 4) a flair for devising effective and original fulfillments of the major demands of architecture: namely, technology (firmness), visual form (delight), planning (commodity), and human awareness and social purpose (MacKinnon, 1964).

When discussing creativity, it is important to consider the problems researchers have encountered in establishing relationships between scores on creativity tests and other more substantial accomplishments. A major issue that has been raised by several investigators deals with whether or not tests of divergent thinking actually measure "true" creativity. Although some validation studies have reported limited relationships between measures of divergent thinking and creative performance criteria (Dellas & Gaier, 1970; Guilford, 1964; Shapiro, 1968; Torrance, 1969), the research evidence for the predictive validity of such tests has been limited. Unfortunately, very few tests have been validated against real-life criteria of creative accomplishment, and in cases where such studies have been conducted the creativity tests have done poorly (Crockenberg, 1972). Thus, although divergent thinking is indeed a characteristic of highly creative persons, caution should be exercised in the use and interpretation of tests designed to measure this capacity.

Given the inherent limitations of creativity tests, a number of writers have focused attention on alternative methods for assessing creativity. Among others, Nicholls (1972) suggests that an analysis of creative products is preferable to the trait-based approach in making predictions about creative potential, and Wallach (1976) proposes that student self-reports about creative accomplishment are sufficiently accurate to provide a usable source of data.

Although few persons would argue against the importance of inducting creativity in a definition of giftedness, the conclusions and recommendations discussed above raise the haunting issue of subjectivity in measurement. In view of what the research suggests about the questionable value of more objective measures of divergent thinking, perhaps the time has come for persons in all areas of endeavor to develop more careful procedures for evaluating the products of candidates for special programs.

Discussion and Generalizations

The studies reviewed above lend support to a small number of basic generalizations that can be used to develop an operational definition of giftedness. The first is that giftedness consists of an interaction among three clusters of traits—above-average but not necessarily superior general abilities, task commitment, and creativity. Any definition or set of identification procedures that does not give equal attention to all three clusters is simply ignoring the results of the best available research dealing with this topic.

Related to this generalization is the need to make a distinction between traditional indicators of academic proficiency and creative productivity. A sad but true fact is that special programs have favored proficient lesson learners and test takers at the expense of persons who may score somewhat lower on tests but who more than

compensate for such scores by having high levels of task commitment and creativity. Research has shown that members of this group ultimately make the most creative/productive contributions to their respective fields of endeavor.

A Second generalization is that an operational definition should be applicable to all socially useful performance areas. The one thing that the three clusters discussed above have in common is that each can be brought to bear on a multitude of specific performance areas. As was indicated earlier, the interaction or overlap among the clusters "makes giftedness," but giftedness does not exist in a vacuum. Our definition must, therefore, reflect yet another interaction; but in this case it is the interaction between the overlap of the clusters and any performance area to which the overlap might be applied. This interaction is represented by the large arrow in Figure 2.

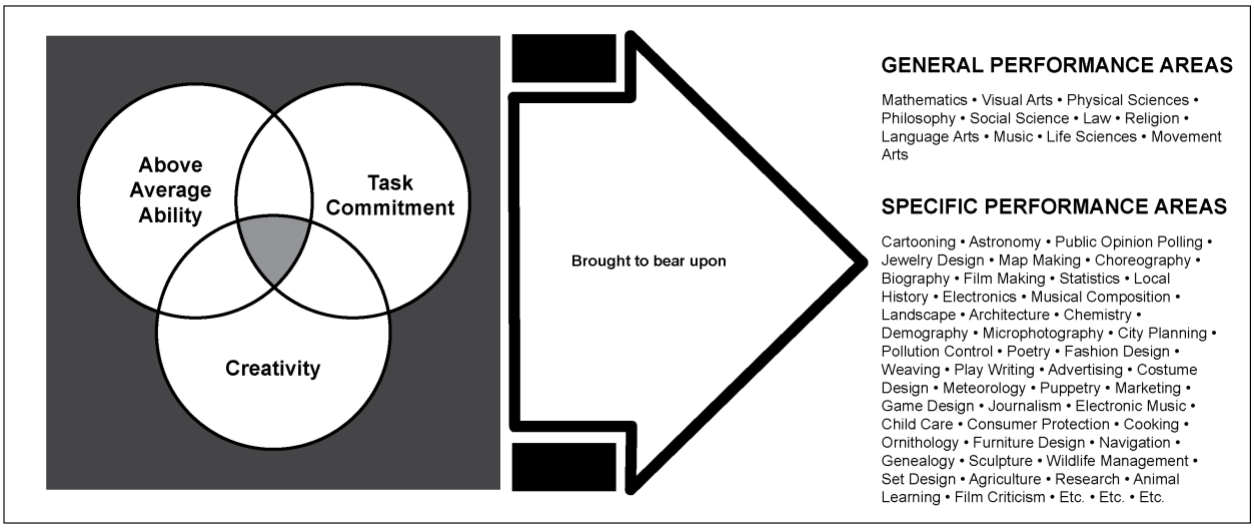


Figure 2. A Graphic Definition of Giftedness

A third and final generalization is concerned with the types of information that should be used to identify superior performance in specific areas. Although it is a relatively easy task to include specific performance areas in a definition, developing identification procedures that will enable us to recognize specific areas of superior performance is more difficult. Test developers have thus far devoted most of their energy to producing measures of general ability, and this emphasis is undoubtedly why these rests are relied upon so heavily in identification. However, an operational definition should give direction to needed research and development, especially as these activities relate to instruments and procedures for student selection. A defensible definition can thus become a model that will generate vast amounts of appropriate research in the years ahead.

A Definition of Giftedness

Although no single statement can effectively integrate the many ramifications of the research studies described above, the following definition of giftedness attempts to

summarize the major conclusions and generalizations resulting from this review of research:

> 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.

A graphic representation of this definition is presented in Figure 2. The definition is an operational one because it meets three important criteria. First, it is derived from the best available research studies dealing with characteristics of gifted and talented individuals. Second, it provides guidance for the selection and/or development of instruments and procedures that can be used to design defensible identification systems. And finally, the definition provides direction for programming practices that will capitalize upon the characteristics that bring gifted youngsters to our attention as learners with special needs.

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States Define Giftedness

Twenty-six states now define children who are exceptional by virtue of giftedness either in statutes or in state department of education regulations.* Pennsylvania, Idaho, Florida, and North Carolina require the same formal IEP (individualized education program) for the gifted as is mandated for the handicapped in the federal Education for All Handicapped Children Act (P.L 94-142).

This information comes from Christine Lewis, the Montgomery County Intermediate Unit IEP facilitator for the gifted in Norristown, Pennsylvania.

* Karnes, F. A., & Collins, E. C. (1978). State definitions of gifted and talented: A report and analysis, *Journal of the Education of the Gifted, 1*(1), 44–62.

Kohlberg's Level Six
by Jessica Maxwell

Oh cursed be it that bade me see
oh inefficient clarity
oh clarion clarinet's reedy wheeze
which, while on pitch,
is still unclear
is still some distant other's tune
rising still
so faint I can't quite catch the beat
can't march in time my tapping feet feel but the rhythms of the moon which rises even in the midst
oh sweet oblivion
thou kissed but fools and left me crutches clutched and falling
to this half-heard song
this ill-reared imp
who peeks from ferns
now here, no where
what frolicking fiendish flutist thou
won't let me hear
won't let me be
who keeps me but a helpless mute
who hears yet can't return a phrase
what cryptic crippling arias raise
this ambered ant
this muscle frozen in mid-reach
each to each
it calls, it calls
that tortuous truth that won't be good
or understood
it falls.
Would that I could rest,
nay fall asleep
that it would fall on canceled ears
or veiled eyes, inert to weep
the silent cold and running wine
an opiate
a tonic weed
in anesthetic healing art
pretends, complete, the pauper's peace.

JESSICA MAXWELL is one of 69 gifted children whose careers are being followed by Mary Meeker, president of the SOI Institute in El Segundo, Calif.
A former Mademoiselle editor, Ms. Maxwell is now a Los Angeles Times columnist.