CHAPTER ONE

Definitions, Models, and Characteristics of Gifted Students

by Susan K. Johnsen

Andrea is a kindergarten child, full of energy and excitement like most children her age except that she is already reading at a fourth-grade level and understands mathematics concepts at a fifth-grade level. She likes to play games with the other children in her classroom, but she is interested in black holes, a topic most children her age don't understand. Since she is social, she has established a learning center about black holes for other children in her kindergarten classroom and has become the editor of a schoolwide newsletter. While very accomplished for a 6-year-old child, Andrea is quite humble about her prodigious abilities and appears to enjoy each day with her classmates.

* * *

After failing two grades in his elementary school, Burton is 13 and has finally made it to the sixth grade. While Burton doesn't turn in much work, his sixth-grade teacher has noticed that he seems to have a mathematical mind and catches on to new concepts easily. In fact, he aced a nationally normed analogies test and enjoyed talking about how each of the items was designed. His friends know that he has built a working roller coaster in his back yard out of scrap lumber and electronic equipment. However, because of his lack of interest in

grades and schoolwork, the teacher did not refer Burton to the gifted and talented program because he doesn't do the work that will prepare him for the mandated state test.

* * *

Ryan, a high school student, is a challenge for his parents and teachers alike. It's not unusual for him to wear Christmas lights to school to attract attention from his favorite girlfriend, to dye his hair several colors, or to wear red gloves to a band concert. Although he scores well on national tests, recently making a 1350 on his SAT, he performs at a minimal level in his classes and is not even in the top 10%. He loves music, playing three different instruments proficiently: the tuba, the cello, and the bass guitar. Outside of school, he has organized and leads two jazz bands, recently cutting his first CD. The summer following his senior year, he has been accepted to the Drum Corps International before beginning college.

Definitions

These three vignettes based on true stories describe children who are gifted and talented. While not always in school, each one has particular abilities that are manifested in a variety of ways—one through his music and leadership, another through his reasoning and constructions, and the third through academic performance. Andrea's teachers would clearly identify her as gifted and talented, but Burton and Ryan might not be selected because of their lack of interest in school. They are indeed different from one another, yet they all show high performance in the areas included in the United States federal definition of gifted and talented students:

> The term "gifted and talented" when used in respect to students, children, or youth means students, children, or youth who give evidence of high performance capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who require services or activities not ordinarily provided by the school

> in order to fully develop such capabilities. (P.L. 103-382, Title XIV, p. 388)

This definition has been adopted in part or completely by the majority of the states, including Texas, whose definition states:

> In this subchapter, "gifted and talented students" means a child or youth who performs at or shows the potential for performing at a remarkably high level of accomplishment when compared to others of the same age, experience, or environment, and who:
> 1. exhibits high performance capability in an intellectual, creative, or artistic area;
> 2. possesses an unusual capacity for leadership; or
> 3. excels in a specific academic field. (74th legislature of the State of Texas, Chapter 29, Subchapter D, Section 29.121)

The major characteristics of these definitions are a) the diversity of areas in which performance may be exhibited (e.g., intellectual, creative, artistic, leadership, academic), b) the comparison with other groups (e.g., those in general education classrooms or of the same age, experience, or environment), and c) the use of terms that imply a need for development of the gift (e.g., *capability* and *potential*).

Models

This concept of "capability" or "potential" is addressed in Gagné's (1995, 1999) Differentiated Model of Giftedness and Talent (see Figure 1.1). Gagné has proposed that "gifts," which are natural abilities, must be developed to become "talents," which emerge through the systematic learning, training, and practicing "of skills characteristic of a particular field of human activity or performance" (p. 230). The development of gifts into talents may be facilitated or hindered by two types of catalysts: intrapersonal and environmental. Intrapersonal catalysts are physical (e.g., health, physical appearance) and psychological (e.g., motivation, personality, and volition), all of which are influenced by genetic background. Environmental catalysts are surroundings (e.g., geographic, demographic, sociological), people (e.g., parents, teach-

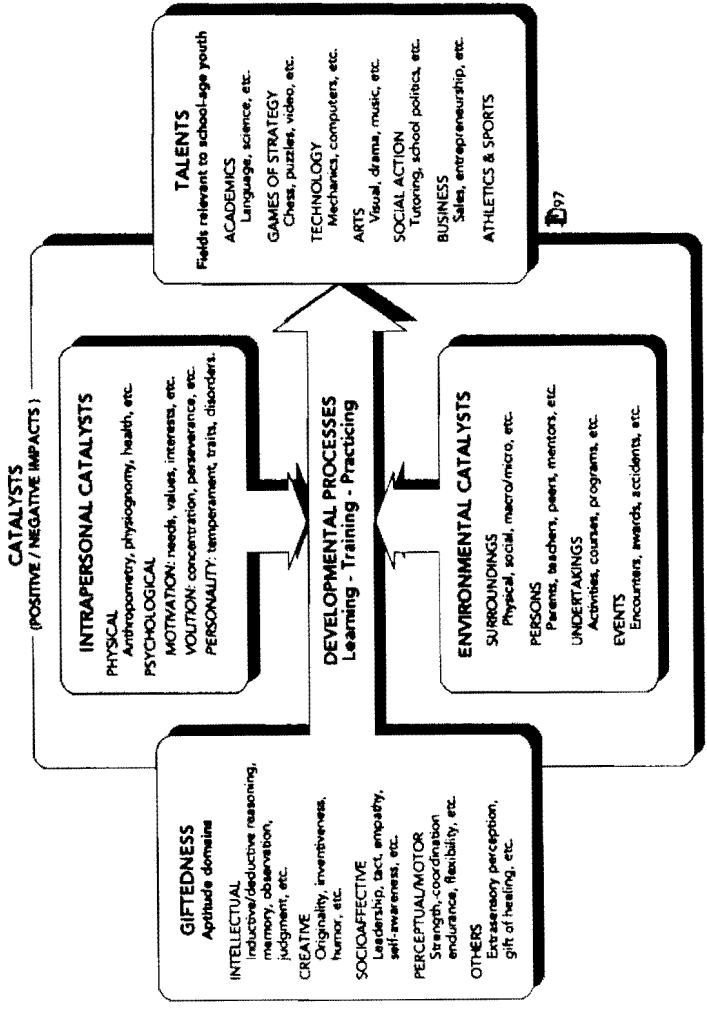

Figure 1.1. Gagné's Differentiated Model of Giftedness and Talent (DMGT)

Note. From "Is There Light at the End of the Tunnel?," by F. Gagné, 1999, *Journal for the Education of the Gifted, 22*, p. 231. Copyright ©1999 by The Association for the Gifted. Reprinted with permission.

ers, siblings, peers), undertakings (e.g., programs for gifted and talented students), and events (e.g., death of a parent, major illness, winning a prize). Gagné has recognized that any program that a school develops for gifted and talented students should recognize the domain or field in which it is exhibited and the level

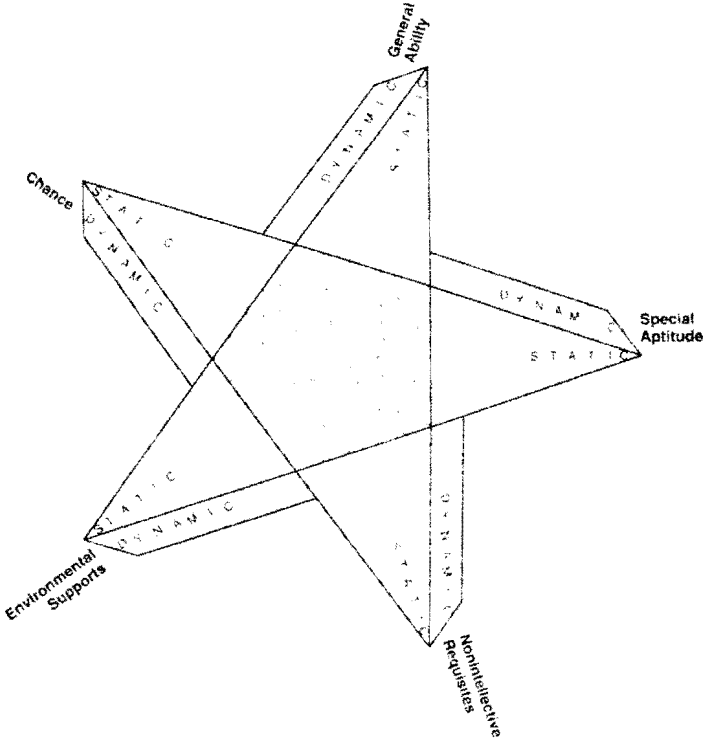

Figure 1.2. The Five Factors That "Mesh" Into Excellence

Note. From "Nature and Nuture of Giftedness" (p. 47), by A. Tannenbaum, in *Handbook of Gifted Education* (3rd ed.), N. Colangelo & G. A. Davis (Eds.), 2003, Boston: Pearson Education. Copyright ©2003 by Pearson Education. Reprinted with permission.

of the student's giftedness or talent (e.g., performing in the top 10%, 5%, 2%, 1%, or less than 1%).

Similarly, Tannenbaum (1983) viewed giftedness as an interaction of five different factors (see Figure 1.2): general ability (e.g., "g" or general intelligence), special ability (e.g., aptitude in a specific area), nonintellective facilitators (e.g., metalearning, dedication to a chosen field, strong self-concept, willingness to sacrifice, mental health), environmental influences (e.g., parents, classroom, peers, culture, social class), and chance (e.g., accidental, general exploratory, sagacity, and personalized action).

Given this importance of developing gifts into talents, school districts and the community should be involved in identifying students at an early age who exhibit characteristics in specific

areas and plan their programs around these characteristics. Teachers, administrators, counselors, school psychologists, parents, siblings, peers, neighbors, and others who have contact with gifted children may assist in the nomination process if they are observant and learn about the variety of characteristics that may be exhibited in situations inside and outside of school. For example, professionals in the school may be unaware of Ryan's leadership in two jazz bands or Burton's operational roller coaster in his backyard. Parents, peers, and the gifted student need to advocate for services that will develop the potential that is apparent in these youths' areas of interest.

Characteristics

Many authors have described characteristics of gifted and talented students, some in general terms across several domains, while others have described them for specific areas cited in the federal and state definitions. Since most school districts identify children for programs that are related to the definition, this chapter organizes the characteristics according to these specific areas. Professionals who are primarily responsible for the identification process must remember that gifted and talented students *must have an opportunity to perform.* Students who are in classrooms where no differentiation is present are less likely to exhibit these characteristics. In addition, gifted and talented students will demonstrate many, but *not all,*of the characteristics that are listed in each area. In addition, gifted and talented students may show potential or performance in *only one* area. It is important that professionals, parents, and others involved in the identification process look for these characteristics over a period of time and in a variety of situations.

General Intellectual Ability

Those gifted and talented students with general intellectual ability tend to perform or show the potential to perform in several fields of study. Spearman (1923) defined this general ability as "g," which is common to many tasks. Cattell (1963) further divided "g" into *fluid* (inherited ability) and *crystallized* (abilities acquired through learning). Many general intelligence tests and checklists include items that assess both *fluid abilities,* such as

analogies, block designs, and pattern arrangements, and *crystallized abilities*, such as mathematics problems, vocabulary, and comprehension of reading passages.

Researchers have consistently identified these characteristics as relating to this area (Clark, 1997; Colangelo & Davis, 1991; Coleman & Cross, 2001; Davis & Rimm, 1994; Gilliam, Carpenter, & Christensen, 1996; Khatena, 1992; Piirto, 1999; Renzulli, Smith, White, Callahan, Harman, & Westberg, 2002; Rogers, 2001; Sternberg & Davidson, 1986; Swassing, 1985; Tannenbaum, 1983):

- Has an extensive and detailed memory, particularly in an area of interest.
- Has vocabulary advanced for age—precocious language.
- Has communication skills advanced for age and is able to express ideas and feelings.
- Asks intelligent questions.
- Is able to identify the important characteristics of new concepts, problems.
- Learns information quickly.
- Uses logic in arriving at common sense answers.
- Has a broad base of knowledge—a large quantity of information.
- Understands abstract ideas and complex concepts.
- Uses analogical thinking, problem solving, or reasoning.
- Observes relationships and sees connections.
- Finds and solves difficult and unusual problems.
- Understands principles, forms generalizations, and uses them in new situations.
- Wants to learn and is curious.
- Works conscientiously and has a high degree of concentration in areas of interest.
- Understands and uses various symbol systems.
- Is reflective about learning.

Specific Academic Field

In this area, gifted and talented students exhibit potential or demonstrated accomplishment in one specific field of study, such as language arts, mathematics, social studies, or science. Researchers have identified general and specific characteristics for these aca-

demic fields (Feldhusen, Hoover, & Sayler, 1990; Gilliam, Carpenter, & Christensen, 1996; Rogers, 2001; Piirto, 1999; Tannenbaum, 1983):

General (demonstrated within field of interest)

- Has an intense, sustained interest.
- Has hobbies/collections related to field.
- Attracted toward cognitive complexity, enjoys solving complex problems.
- Prefers classes/careers in the academic field.
- Is highly self-motivated, persistent.
- Has a broad base of knowledge.
- Reads widely in an academic field.
- Learns information quickly.
- Has an inquisitive nature, asks good questions.
- Examines and recalls details.
- Recognizes critical elements and details in learning concepts.
- Analyzes problems and considers alternatives.
- Understands abstract ideas and concepts.
- Uses vocabulary beyond grade level.
- Verbalizes complex concepts and processes.
- Visualizes images and translates into other forms—written, spoken, symbolic—music notation, numbers, letters.
- Sees connections and relationships in a field and generalizes to other situations, applications.

Math/Science

- Is interested in numerical analysis.
- Has a good memory for storing main features of problem and solutions.
- Appreciates parsimony, simplicity, or economy in solutions.
- Reasons effectively and efficiently.
- Solves problems intuitively using insight.
- Can reverse steps in the mental process.
- Organizes data and experiments to discover patterns or relationships.

- Improvises with science equipment and math methods.
- Is flexible in solving problems.

Social Studies/Language Arts

- Enjoys language/verbal communication, communication skills.
- Engages in intellectual play, enjoys puns, good sense of humor.
- Organizes ideas and sequences in preparation for speaking and writing.
- Suspends judgment, entertains alternative points of view.
- Is original and creative—has unique ideas in writing or speaking.
- Is sensitive to social, ethical, and moral issues.
- Is interested in theories of causation.
- Likes independent study and research in areas of interest.
- Uses these qualities in writing: paradox, parallel structure, rhythm, visual imagery, melodic combinations, reverse structure, unusual adjectives/adverbs, sense of humor, philosophical bent (Piirto, 1999, p. 241).

Creative Area

The key characteristic that is often associated with creativity is *divergent thinking*. As opposed to convergent thinking (arriving at a single conclusion), divergent thinking requires the gifted and talented student to produce many ideas or ideas that are different from the norm.

Coleman and Cross (2001) suggest that the comparison group, "whether to self, others, a situation, a point in time, a field of study, a cultural group, or a combination of these," determines how narrowly or broadly creativity is defined (p. 241). Psychologists tend to agree that creativity is not the same as intelligence, but that creative individuals tend to have a threshold intelligence score of about 120 (Getzels & Jackson, 1962). Psychometrically, test developers have defined creativity as fluency, flexibility, originality, and elaboration (Guilford, 1950; Torrance, 1974). Cognitive scientists have identified characteristics of creative individuals by studying the methods they use in solving com-

plex problems (Perkins, 1981; Sternberg, 1988), while other researchers have identified characteristics by examining case studies of creators and how they generated ideas over longer periods of time (Goertzel & Goertzel, 1962; Gruber, 1982). Taking a case study approach, Gardner (1993) suggests that creative production emerges only after 10 years of concentrated study in a specific field. For this reason, teachers clearly would be observing creative potential in gifted and talented students during their school years.

Researchers have identified some of these common characteristics (Clark, 1997; Coleman & Cross, 2001; Gardner, 1993; Gilliam, Carpenter, & Christensen, 1996; Goertzel & Goertzel, 1962; Gruber, 1982; Guilford, 1950; Khatena, 1992; Perkins, 1981; Piirto, 1999; Renzulli, Smith, White, Callahan, Harman, & Westberg, 2002; Sternberg, 1988; Tannenbaum, 1983; Torrance, 1974):

- Has in-depth foundational knowledge.
- Prefers complexity and open-endedness.
- Contributes new concepts, methods, products, or performances.
- Has extreme fluency of thoughts and a large number of ideas.
- Is observant and pays attention to detail.
- Uses unique solutions to problems, improvises.
- Challenges existing ideas and products.
- Connects disparate ideas.
- Is constantly asking questions.
- Criticizes constructively.
- Is a risk taker, confident.
- Is attracted to the novel, complex, and mysterious.
- Is a nonconformist, uninhibited in expression, adventurous, able to resist group pressure.
- Accepts disorder.
- Tolerates ambiguity; delays closure.
- Is persistent and task committed in area of interest.
- Has a sense of humor.
- Is intellectually playful.
- Is aware of own creativity.
- Is emotionally sensitive; sensitive to beauty.
- Is intuitive.

- Enjoys alone time.
- Is reflective about personal creative process.

Artistic Area

In this area, gifted and talented students exhibit potential or demonstrated accomplishment in one or more artistic fields, such as art, drama, or music. Khatena (1992) suggested that "talented individuals in the performing and visual arts are bright, that creativity is a significant energizing factor in talent, and that specific to each art form exists highly specialized abilities that require the language and skills peculiar to that art form for their expression" (p. 147).

Researchers have identified general and specific characteristics for these artistic fields (Clark & Zimmerman, 1984; Gilliam, Carpenter, & Christensen, 1996; Renzulli, Smith, White, Callahan, & Harman, 1976; Khatena, 1988; 1992; Piirto, 1999; Seashore, Leavis, & Saetveit, 1960):

General (demonstrated within artistic area)

- Chooses artistic activity for projects or during free time.
- Studies or practices artistic talent without being told.
- Strives to improve artistic skills.
- Demonstrates talent for an extended period of time.
- Concentrates for long periods of time on artistic projects.
- Seems to pick up skills in the arts with little or no instruction.
- Possesses high sensory sensitivity.
- Observes and shows interest in others who are proficient in the artistic skill.
- Uses the artistic area to communicate.
- Experiments in the artistic medium.
- Sets high standards in the artistic area.
- Demonstrates confidence in the artistic area.

Art

- Scribbles earlier than most.
- Initiates drawing.

- Incorporates large number of elements into artwork.
- Provides balance and order in artwork.
- Elaborates on ideas from other people as a starting point.
- Observes details in environment, artistic area.
- Has unique, unusual solutions to artistic problems.
- Uses unusual and interesting visual imagery.
- Is innovative in selecting and using art materials.
- Has a highly developed sense of movement and rhythm in drawings.
- Has a great feel for color.
- Varies organization of elements to suit different situations.
- Uses content that is interesting, tells a story, or expresses feelings.
- Produces many drawings.

Drama

- Is innovative and creative in performing.
- Easily tells a story or gives an account of some experience.
- Uses gestures or facial expressions to communicate feelings.
- Is adept at role-playing, improvising, acting out situations.
- Identifies with moods and motivations of characters.
- Handles body with ease and poise.
- Creates original plays or makes up plays from stories.
- Commands and holds the attention of a group when speaking.
- Evokes emotional responses from listeners.
- Communicates feelings through nonverbal means.
- Imitates others, uses voice to reflect changes of idea and mood.

Music

- Discriminates fine differences in tone, relative, or absolute pitch.
- Identifies a variety of sounds (background noise, singers, orchestral instruments).

- Varies loudness and softness.
- Remembers melodies and can produce them accurately.
- Plays an instrument or indicates a strong desire.
- Is sensitive to rhythm, changes body movements to tempo.
- Dances to tunes with different rhythms.
- Can complete a melody.
- Creates own melodies.
- Likes listening to music.
- Likes producing music with others.

Leadership

Leadership is the result of an interaction between a number of variables: the personality, status, achievement, and intelligence of the leader; the characteristics of the followers; and the situation (Stogdill, 1974). Since leadership may emerge in various types of situations and is dependent upon a number of variables being present, professionals may find it difficult to identify potential leaders.

Knowing that the situation will influence leadership, researchers have identified these general personal characteristics (Davis & Rimm, 1994; Karnes, 1991; Khatena, 1992; Renzulli, Smith, White, Callahan, & Harman, 1976)

- Is well-organized.
- Can do backward planning.
- Is visionary, has a holistic view.
- Is a problem finder.
- Is able to see problems from multiple perspectives.
- Is adaptable to new situations.
- Can manipulate systems.
- Is highly responsible; can be counted on.
- Maintains on-task focus.
- Is self-confident.
- Is a persuasive communicator.
- Has a cooperative attitude; works well in groups.
- Participates in most social activities, enjoys being around other people.
- Influences the behavior of others; recognized as a leader by peers.

- Is respected, liked, or both by others.
- Is aware of verbal and nonverbal cues; sophisticated interpersonal skills.
- Is emotionally stable.
- Is willing to take risks.

Affective

Along with cognitive characteristics, gifted students frequently exhibit particular affective characteristics (Clark, 1997; Colangelo & Davis, 1991; Coleman & Cross, 2001; Khatena, 1992; Piirto, 1999; Rogers, 2001; Sternberg & Davidson, 1986; Swassing, 1985; Tannenbaum, 1983). Some researchers suggest that these emotional aspects of a gifted and talented individual may be traits or temperaments (i.e., genetic), while others may be developed (Csikszentmihalyi, Rathunde, & Whalen, 1993; Piirto, 1999; Winner, 1996):

- Is motivated in work that excites.
- Persists in completing tasks in areas of interest.
- Is self-directed, independent.
- Evaluates and judges critically.
- Has high degree of concentration.
- Becomes bored with routine tasks.
- Is interested in "adult" problems.
- Is concerned about right and wrong, ethics.
- Has higher self-concept, particularly in academics.
- Has high expectations of self and others.
- Has a sense of humor.
- Is highly sensitive.
- Takes other perspectives; is empathic.
- Is a perfectionist.

Characteristics of the Hard-to-Find Gifted and Talented Student

The interaction between these frequently cited characteristics associated with gifted and talented students and other factors such as the school task, the social situation, family background, and individual genetic traits can produce both desirable and undesirable behaviors (Clark, 1997; Whitmore, 1980). Undesirable

behaviors tend to limit services for some gifted and talented students because teachers and other educators may have particular stereotypical expectations of how gifted students should perform (e.g., all are early readers, academic achievers, verbal, and "well-behaved students"). In Whitmore's classic study, she found certain factors that appear to influence underachievement in gifted students. This set of factors mainly falls within three categories: school conditions, motivation, and personal characteristics that may lead to problems (see Table 1.1).

When these factors are present, the gifted and talented student may not exhibit the characteristics that are listed in each of the above areas, but will choose to perform in school by rejecting assignments, functioning nonconstructively in groups, demonstrating poor study habits, procrastinating, showing a gap between oral and written work, or rebelling against teachers. Given these poor academic behaviors, the gifted and talented student may select companions who are negative toward school, alienate peers by constant aggression, or withdraw from social interactions in the classroom, at home, or both. These types of behaviors may ultimately lead to less satisfaction with school "rewards" such as grades or dropping out mentally or physically from school (Clark, 1997; Davis & Rimm, 1994; Laffoon, Jenkins-Friedman, & Tollefson, 1989; Whitmore, 1980).

Some groups of students are particularly vulnerable to exhibiting these negative behaviors or behaviors that are not necessarily stereotypical of gifted and talented students. These groups include culturally different students, those from lower income families, disabled students, and women.

Culturally Different

"Culturally different" refers frequently to gifted students from specific ethnic groups: Hispanics, African Americans, Native Americans, and Asian Americans. If the particular gifted student's "abilities and interests are not synchronous with subgroup values, then the child must face the problems of gaining acceptance of his or her giftedness by both society and by members of the subgroup" (p. 197). Areas of cultural identity are multifaceted and include not only national origin, but also religion, geographic region, urban/suburban/rural, age, gender/sex, class, and excep-

Table 1.1

Vulnerable Areas for Gifted Students

Personal Characteristics	Motivation	School Conditions
1. Perfectionism leads to high degree of self-criticism, competition, and/or unrealistic performance expectations.	1. Too easy or too difficult a task limits the GT student's possibility for success.	1. If individuality is not valued, then social isolation occurs.
2. Supersensitivity to social feedback leads to withdrawal.	2. The GT student fears failure from high expectations.	2. Teachers and others have unrealistic expectations of high performance in all areas consistently.
3. Desire for independence leads to attempts to control the situation.	3. Desires and abilities may not match opportunities.	3. Teachers and others are uncomfortable with differentness, fear superior knowledge.
4. Given an intense desire to satisfy curiosity, the GT student feels restricted in analyzing the problem in the time allocated.	4. No positive role model is present.	4. School activities are not differentiated or challenging, offer no depth or complexity.
5. Using advanced problem solving, the GT student manipulates peers and adults.	5. The GT student doesn't have a positive vision of the future.	5. The school district does not provide any appropriate educational provision.
6. Desiring complexity, the GT student is not interested in memorization, repetition, or lower levels of thinking.	6. The GT student doesn't have accurate self-knowledge about his ability.	
	7. Unable to control emotions, the GT student is easily frustrated, embarrassed, and aggressive toward people who create obstacles.	
	8. The GT student doesn't have the energy to persist to completion of a goal.	

Note. Adapted from *Giftedness, Conflict, and Underachievement*, by J. R. Whitmore, 1980, Boston: Allyn and Bacon. Copyright ©1980 by Allyn and Bacon. Adapted with permission.

tionality (Clark, 1997; Gollnick & Chinn, 1990). The greater number of areas that are different from the macro culture, the greater chance that the gifted student will display characteristics that may be different from the norm.

Torrance (1969) suggested 18 "creative positives" that may be helpful in identifying culturally different youth (pp. 71–81):

- ability to express feelings and emotions;
- ability to improvise with commonplace materials and objects;
- articulateness in role-playing, sociodrama, and storytelling;
- enjoyment of, and ability in, visual arts, such as drawing, painting, and sculpture;
- enjoyment of, and ability in, creative movement, dance, dramatics, and so forth;
- enjoyment of, and ability in, music, rhythm, and so forth;
- use of expressive speech;
- fluency and flexibility in figural media;
- enjoyment of, and skills in, small-group activities, problem solving, and so forth;
- responsiveness to the concrete;
- responsiveness to the kinesthetic;
- expressiveness of gestures, body language, and so forth, and ability to interpret body language;
- humor;
- richness of imagery in informal language;
- originality of ideas in problem solving;
- problem-centeredness or persistence in problem solving;
- emotional responsiveness; and
- quickness of warm-up.

On the other hand, Frasier and Passow (1994) suggested that all gifted students, regardless of their cultural background, express their abilities by demonstrating:

- a strong desire to learn;
- an intense, sometimes unusual interest;
- an unusual ability to communicate with words, numbers, or symbols;

- effective, often inventive strategies for recognizing and solving problems;
- a large storehouse of information;
- a quick grasp of new concepts;
- logical approaches to solutions;
- many highly original ideas; and
- an unusual sense of humor.

Lower Income

Children from lower income backgrounds have the most difficulty in being selected for programs for gifted and talented students (Clark, 1997). They may have a family background that is not rich in language and reading or family members who have not had positive experiences with school, who have not attained higher education degrees, or who solve problems using violence (Baldwin, 1973). For these reasons, this group of gifted students is particularly vulnerable to becoming underachievers in school.

Researchers have identified these characteristics that appear to assist in identifying children from lower income backgrounds (Baldwin, 1973; Clark, 1997; Torrance, 1969):

- Has high mathematical abilities.
- Is curious; varied interests.
- Is independent.
- Has a good imagination.
- Is fluent in nonverbal communication.
- Improvises when solving problems.
- Learns quickly through experience.
- Retains and uses information well.
- Shows a desire to learn in daily work.
- Is original and creative.
- Uses language rich in imagery.
- Responds well to visual media; concrete activities.
- Shows leadership among peers; is responsible.
- Shows relationships among unrelated ideas.
- Is entrepreneurial.
- Has a keen sense of humor.

Disabled

It has been estimated that approximately 2% of the disabled population is gifted. Children with disabilities include those with learning disabilities, visual or auditory impairments, physical disabilities, emotional handicaps, or speech delays. Most often, the child may have extreme ability in one or more areas and need remediation in others. The disability may mask the ability or vice versa. For example, a gifted child with a hearing impairment may be delayed in language and may need assistance from a speech therapist. Since special education services often focus on remediation, the gift might go unrecognized. On the other hand, a gifted child with a learning disability may be able to answer comprehension questions on a test by matching words in the passage to the answers even though she doesn't know how to read. In this case, the gifted student would hide the disability and most likely not be served by special education or the program for gifted and talented students.

Table 1.2 includes the characteristics Whitmore (1981) has identified that reveal giftedness in children with disabilities.

Women

For the most part, boys and girls do not differ significantly in cognitive skills (Kerr, 1991; Linn & Hyde, 1989; Maccoby & Jacklin, 1974). In fact, gifted girls are more similar to gifted boys than to average girls in their interests, attitudes, and aspirations (Kerr, 1991). However, while changing, the culture still tends to encourage more passivity in girls (e.g., playing with dolls, reading) and more spatial and analytic reasoning in boys (e.g., playing video games, using building blocks; Clark, 1997). Girls who show talent may be viewed as unfeminine, bossy, and show-offs, thus more girls hide their talents by adolescence. Teachers need to be particularly diligent in identifying girls for programs in mathematics and science. Kitano (1994/1995) and Kerr (1994) suggested that research on mainstream gifted women may not necessarily generalize to gifted women from other ethnic and racial groups.

Table 1.2

Characteristics of Gifted and Disabled Students

Disability	Impeding Characteristics	Characteristics Revealing Giftedness
Learning disability	Little or no productivity in school—cannot read, write, spell easily or accurately	1. Superiority in oral language—vocabulary, fluency, structure 2. Memory for facts and events 3. Exceptional comprehension 4. Analytical and creative problem-solving abilities 5. Markedly advanced interests, impressive knowledge 6. Keen perception and humor 7. Superior memory, general knowledge
Developmental delay in motor area	Poor motor skills, coordination. Writing is painfully slow, messy. Child is often easily distracted from tasks and described as inattentive.	1. Drive to communicate through alternative modes: visual, nonverbal body language. 2. Superior memory and problem-solving ability 3. Exceptional interest and drive in response to challenge
Cerebral palsy, deafness	Absence of oral communication skills.	1. Superior verbal skill, oral language 2. Exceptional capacity for manipulating people and solving "problems" 3. Superior memory, general knowledge
Emotional handicap	Disordered behavior—aggressive, disruptive, frequently off-task. Extremely withdrawn, noncommunicative.	Most difficult to identify—the only key is response to stimulation of higher mental abilities unless superior written work is produced.

Note. Adapted from "Gifted Children With Handicapping Conditions: A New Frontier," by J. R. Whitmore, 1981, *Exceptional Children, 2*, p. 106. Copyright ©1981 by the Council for Exceptional Children.

Summary

Gifted and talented students present an array of characteristics in one or more of the areas defined in federal and state definitions. These characteristics may be manifested in both positive and negative ways. In all cases, teachers must provide opportunities for the characteristic to be demonstrated. Directors and coordinators of school districts must provide professional development so that teachers will know how to establish situations for gifts and talents to emerge, how to observe characteristics over time, and how to observe characteristics in groups that are typically underrepresented in programs for gifted and talented students (culturally different, lower income, disabled, and women).