# Reflections on the Education of Gifted and Talented Students in the Twentieth Century: Milestones in the Development of Talent and Gifts in Young People

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In the recently released federal report on the status of education for our nation's most talented students entitled *National Excellence, A Case for Developing America's Talent* (O'Connell-Ross, l993), a quiet crisis is described in the education of talented students in the United States. The report clearly indicates the absence of attention paid to this population: "Despite sporadic attention over the years to the needs of bright students, most of them continue to spend time in school working well below their capabilities. The belief espoused in school reform that children from all economic and cultural backgrounds must reach their full potential has not been extended to America's most talented students. They are underchallenged and therefore underachieve" (p. 5). The report further indicates that our nation's talented students are offered a less rigorous curriculum, read fewer demanding books, and are less prepared for work or postsecondary education than top students in many other industrialized countries. Given this depressing appraisal, it seems a timely endeavor to reflect upon the most important accomplishments in the field of gifted education in the twentieth century. The following accomplishments emerge as major accomplishments on my list.

## Early and Expanded Definitions Giftedness and Talent

For many years, psychometricians and psychologists, following in the footsteps of Lewis Terman in 1916, equated giftedness with high IQ. This "legacy" survives to the present day, in that giftedness and high IQ continue to be equated in some conceptions of giftedness. Since that early time, however, other researchers (e.g., Cattell, Guilford, and Thurstone) have argued that intellect cannot be expressed in such a unitary manner, and have suggested more multifaceted approaches to intelligence (Wallace & Pierce, 1992). Research conducted in the 1980s and 1990s has provided data which support notions of multiple components to intelligence. This is particularly evident in the reexamination of "giftedness" by Sternberg and Davidson (1986) in their edited *Conceptions of Giftedness*. The 16 different conceptions of giftedness presented (those of Albert and Runco; Bamberger; Borkowski and Peck; Csikszentmihalyi and Robinson; Davidson; Feldhusen; Feldman and Benjamin; Gallagher and Courtwright; Gruber; Haensly, Reynolds, and Nash; Jackson and Butterfield; Renzulli; Stanley and Benbow; Sternberg; Tannenbaum; and Walters and Gardner), although distinct, are interrelated in several ways. Most of the investigators define giftedness in terms of multiple qualities, not all of which are intellectual. IQ scores are often viewed as inadequate measures of giftedness. Motivation, high self-concept, and creativity are key qualities in many of these broadened conceptions of giftedness (Siegler & Kotovsky, 1986).

Howard Gardner's (1983) theory of multiple intelligences (MI) and Joseph Renzulli's (1978) "three ring" definition of gifted behavior serve as precise examples of multifaceted and expanded conceptualizations of intelligence and giftedness. Gardner's definition of an intelligence is "the ability to solve problems, or create products, that are valued within one or more cultural settings" (Gardner, 1993, p. x). Within his MI theory, he articulates at least seven specific intelligences: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal. Gardner believes that people are much more comfortable using the term "talents" and that "intelligence" is generally reserved to describe linguistic or logical "smartness"; however, he does not believe that certain human abilities should arbitrarily qualify as "intelligence" over others (e.g., language as an intelligence vs. dance as a talent) (Gardner, 1993).

Renzulli's (1978) definition, which defines gifted behaviors rather than gifted individuals, is composed of three components as follows:

Gifted behavior consists of behaviors that reflect an interaction among three basic clusters of human traits-above average ability, high levels of task commitment, and high levels of creativity. Individuals capable of developing gifted behavior are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Persons 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 & Reis, 1997, p. 8)

Characteristics which may be manifested in Renzulli's three clusters are presented in Table 1.

Table 1.
Taxonomy of Behavioral Manifestations of Giftedness According to Renzulli's "Three-ring" Definition of Gifted Behaviors

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*Above Average Ability (general)*

- high levels of abstract thought
- adaptation to novel situations
- rapid and accurate retrieval of information

*Above Average Ability (specific)*

- applications of general abilities to specific area of knowledge
- capacity to sort out relevant from irrelevant information
- capacity to acquire and use advanced knowledge and strategies while pursuing a problem

*Task Commitment*

- capacity for high levels of interest, enthusiasm
- hard work and determination in a particular area
- self-confidence and drive to achieve
- ability to identify significant problems within an area of study
- setting high standards for one's work

*Creativity*

- fluency, flexibility and originality of thought
- open to new experiences and ideas
- curious
- willing to take risks
- sensitive to aesthetic characteristics

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(adapted from Renzulli & Reis, 1997, p. 9)

The United States federal government also subscribed to a multifaceted approach to giftedness as early as 1972 when the *Marland Report* definition was passed (Public Law 91-230, section 806). The *Marland*, or "U.S. Department of Education," definition has dominated most states' definitions of giftedness and talent (Passow & Rudnitski, 1993). The most recent federal definition was cited in the Jacob K. Javitz Gifted and Talented Students Education Act of 1988, and is discussed in the most recent national report on the state of gifted and talented education:

Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (U.S. Department of Education, 1993, p. 26)

Though many school districts *adopt* this or other broad definitions as their philosophy, others still only pay attention to "intellectual" ability when both identifying and serving students. And, even though we have more diverse definitions of giftedness and intelligence today, many students with gifts and talents go unrecognized and underserved (Hishinuma & Tadaki, 1996; Kloosterman, 1997) perhaps due to the differing characteristics found in intellectually gifted, creatively gifted, and diverse gifted learners.Common themes identified by the implicit theorists include the need to identify the domain that serves as the basis of one's definition, whether individual or societal; the essential role that cognitive abilities and motivation play in giftedness; the importance of the developmental course of one's talents for whether or how they are expressed; and the inevitability of how one's abilities come together or coalesce as affected by societal forces (Sternberg & Davidson, 1986, pp. 6-7).

Sternberg's explicit theoretic approach emphasizes three aspects of intellectual giftedness: the superiority of mental processes, including metacomponents relating intelligence to the internal world of the individual; superiority in dealing with relative novelty and in automating information processing, an experiential aspect relating cognition to one's level of experience in applying cognitive processes in particular tasks or situations; and superiority in applying the processes of intellectual functioning, as mediated by experience, to functioning in real-world contexts, a contextual aspect. Sternberg believes that "the outward manifestation of giftedness is in superior adaptation to, shaping of and selection of environments" (1986, p. 9) and would agree with Renzulli and Tannenbaum that it can be attained in a number of ways, differing from one person to another. Recurrent themes among the explicit theorists include questioning the cognitive bases of giftedness-asking "what is it that a person can do well to be identified by this term" (Sternberg & Davidson, 1986, p. 10)-and emphasizing the importance of theory-driven

empirical research as the primary means for advancing our understanding of giftedness (pp. 10-11).

Feldman (1986), like Csikszentmihalyi and Robinson, views development as a movement through a sequence of stages. Feldman, however, believes that the development of giftedness is domain specific, observing that the movement through the levels of a domain not mastered by all individuals includes three forms: the rate at which one moves to the level of mastery, the number of levels one achieves, and the domain one selects. According to Feldman, giftedness "is the outcome of a sustained coordination among sets of intersecting forces, including historical and cultural as well as social and individual qualities and characteristics" (p. 303). Walters and Gardner (1986) add the concept of crystallizing experiences that is derived from Gardner's theory of multiple intelligences. According to Gardner (1983), all normal individuals are capable of seven forms of intellectual accomplishment: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal. These multiple intelligences manifest themselves early in life as abilities to process information in certain ways. During crystallized experiences, latent skills of underutilized intelligence may be activated, and an individual's major life activities may change as a result of such an experience.

Bloom and his associates at the University of Chicago also engaged in a study of the development of talent in children, examining the processes by which young people who reached the highest levels of accomplishment developed their capabilities. Groups studied included concert pianists, sculptors, research mathematicians, research neurologists, Olympic swimmers, and tennis champions who attained these high levels of accomplishment before the age of 35. According to Bloom and his associates, the following factors play a role in the development of talent: the home environment, which develops the work ethic and the importance of doing one's best at all times; the encouragement of parents in a highly approved talent field; the involvement of families and teachers; and the presence of achievement and progress, which are necessary to maintain a commitment to talent over a decade of increasingly difficult learning (Bloom, 1985, pp. 508-509).

The importance of development throughout the lifespan of the individual is reinforced by each of these developmental theorists, as is the domain-specific nature of giftedness. Gifted individuals are seen as those who can excel usually in one domain, providing that the environmental factors allow this excellence to manifest itself. These developmental psychologists also emphasize the insights gained from intensive case study research and qualitative or naturalistic methodology.

## The Strengthening of the Field of Gifted Education

The accomplishments of the last 40 years in the education of gifted students since the launching of Sputnik in the United States should not be underestimated; the field of education of the gifted, although still historically in its infancy, has emerged as strong, visible, and viable. The most recent comprehensive United States Gifted and Talented Education Report (Council of State Directors, 1994) shows that 47 states, plus Puerto Rico and Guam, have recognized education of the gifted and talented through specific legislation, and the same number of states have assigned state department of education staff to leadership positions in this area. Twenty-nine states have either a policy or position statement from the state board of education supporting the education of the gifted and talented. The report also shows that since 1963, when Pennsylvania first required services for the gifted and talented, 24 other states and Guam have implemented a mandate for services. Twenty-two other states that do not have a mandate support permissive (discretionary) programs for the gifted and talented. This growth has not been constant, however,

researchers and scholars in the field have pointed to various high and low points of national interest and commitment to educating the gifted and talented (Gallagher, 1979; Renzulli, 1980; Tannenbaum, 1983). Gallagher described the struggle between support and apathy for special programs for this population as having roots in historical tradition-the battle against an aristocratic elite and our concomitant belief in egalitarianism. Tannenbaum portrays two peak periods of interest in the gifted as the five years following Sputnik in 1957 and the last half of the decade of the 1970s. Tannenbaum described a valley of neglect between the peaks in which the public focused its attention on the disadvantaged and the handicapped. "The cyclical nature of interest in the gifted is probably unique in American education. No other special group of children has been alternately embraced and repelled with so much vigor by educators and laypersons alike" (Tannenbaum, 1983, p.16). Renzulli (1980) raised similar concerns when comparing the gifted child movement with the progressive education movement of the 1930s and 1940s, stating that the field has been alternately embraced and rejected by general educators, parents, and laypeople, and he offers suggestions for dealing with some of the criticisms leveled at proponents of a differentiated education for gifted and talented students. "Simply stated, the field of education for the gifted and talented must develop as strong and defensible a rationale for the practices it advocates as has been developed for those things that it is against" (p. 3). Excellent educational research continues to be conducted by scholars in the field and at research-based university programs. In the mid-seventies, only one programming model had been developed for gifted programs; by 1986, a textbook on systems and models for gifted programs included 15 models for elementary and secondary programs (Renzulli, 1986b). The Jacob Javits Legislation passed in 1990 by the federal government resulted in the creation of a National Research Center for the Gifted and Talented which involves three universities (The University of Connecticut and Yale University, state departments of education in every state and a consortium of over 300 school districts from across the country.

## Attention to Underserved Populations in Gifted Education

Too often, the majority of young people participating in gifted and talented programs across the country continue to represent the majority culture in our society. Few doubts exist regarding the reasons that economically disadvantaged and other minority group students are underrepresented in gifted programs. For example, Frasier and Passow (1994) indicate that identification and selection procedures may be ineffective and inappropriate for the identification of these young people. They also indicate that limited referrals and nominations of students who are minorities or from other disadvantaged groups affect their eventual placement in programs. Test bias and inappropriateness have been mentioned as a reason as the continued reliance on traditional identification approaches. Groups that have been traditionally underrepresented in gifted programs could be better served, according to Frasier and Passow (1994), if the following elements are considered: new constructs of giftedness, attention to cultural and contextual variability, the use of more varied and authentic assessment, performance identification, identification through learning opportunities, and attention to both absolute attributes of giftedness, the traits, aptitudes, and behaviors universally associated with talent as well as the specific behaviors that represent different manifestations of gifted potential and performance as a consequence of the social and cultural contexts in which they occur (p. xvii).

In addition to students from economically disadvantaged populations, various minority and cultural groups, as well as gifted students with various disabilities such as learning disabilities, visual and hearing impairments, and physical handicaps. Another group of students who are

traditionally underrepresented in gifted programs are females who have potential in mathematics and science, as well as gifted females who achieve in school but later underachieve in life (Reis, 1987). Special programs, strategies, and identification procedures have been suggested for many of these groups, however, much progress still remains to be made to achieve equity for these underrepresented groups.

## The Development of Promising Programs and Exemplary Practices

In the last decade many promising practices have been implemented in the education of gifted and talented students. More primary and secondary programs have been developed since the first programming model, The Enrichment Triad Model (Renzulli, 1977) was developed for gifted students. Other programming models such as The Purdue Three-Stage Enrichment Model (Feldhusen & Kolloff, l986); Talents Unlimited (Schlichter, 1986); The Autonomous Learner Model (Betts, l986) are also widely used throughout the country. National programs such as Future Problem Solving, which was conceived by Dr. E. Paul Torrance, have taught hundreds of thousands of students to apply problem-solving techniques to the real problems of our society. Although not developed solely for gifted students, Future Problem Solving is widely used in gifted programs because of the curricular freedom associated with these programs.

The Future Problem Solving Program is a year-long program in which teams of four students use a six-step problem solving process to solve complex scientific and social problems of the future such as the overcrowding of prisons or the greenhouse effect. At regular intervals throughout the year, the teams mail their work to evaluators, who review it and return it with their suggestions for improvement. As the year progresses, the teams become increasingly more proficient at problem solving. The Future Problem Solving Program takes students beyond memorization. The program challenges students to apply information they have learned to some of the most complex issues facing society. They are asked to *think,* to make decisions, and, in some instances, to carry out their solutions.

A national program called Talent Search actively recruits and provides testing and program opportunities for mathematically precocious youth. Talent Search is an annual effort to identify 12-14 year old students who score in the top five percent of the country in mathematics on the SAT math test. These students generally have scored highly in other standardized tests and are recommended by teachers or counselors to take the SAT-Math. If they do well on this test, they are eligible for multiple options including summer programs, grade skipping, completing two or more years of a math subject in one year, taking college courses, or other options. Eleven states have created separate schools for talented students in math and science such as The North Carolina School for Math and Science. Some large school districts have established magnet schools to serve the needs of talented students. In New York City, for example, the Bronx High School of Science has helped to nurture and develop mathematical and scientific talent for decades, producing internally known scientists and Nobel laureates. In other states, Governor's Schools provide advanced, intensive summer programs in a variety of content areas. It is clear, however, that these opportunities touch a small percentage of students who could benefit from them.

Within the schools that have gifted programs, limited options often exist. Resource room programs in which a student leaves his/her regular classroom and spends a limited amount of time doing independent study or becoming involved in advanced research in a resource room for gifted students with a teacher are commonly found. Independent study projects provide talented students with opportunities to engage in pursuing individual interests and advanced content.

Many local districts have created innovative mentorship programs which pair a bright student with a high school student or adult who has an interest in the same area as the student. Some schools use cluster grouping which allows students who are gifted in a certain content area to be grouped in one classroom with other students who are talented in the same area. Therefore, one fifth grade teacher may have six students who are advanced in mathematics in a classroom instead of having these six students distributed among four different fifth grade classrooms. Some schools acknowledge that they can do little different for gifted students within the school day and provide after school enrichment programs or send talented students to Saturday programs offered by museums, science centers, or local universities. Unfortunately, many of these promising strategies seem insignificant when compared with the plight of thousands of bright students who still sit in classrooms across the country bored, unmotivated, and unchallenged.

Acceleration, once a standard practice in our country, is too often dismissed by teachers and administrators as an inappropriate practice for a variety of reasons, including scheduling problems, concerns about the social effects of grade skipping, and others. Many forms of acceleration hold promise for gifted students including enabling precocious students to enter kindergarten or first grade early, grade skipping, and early entrance to college are not commonly used or encouraged by most school districts. And in many schools, the pervasive influence of anti-intellectualism that affects our society has a two pronged effect. First, policy makers do little to encourage excellence in our schools and less and less attention is paid to intellectual growth. Second, peer pressure is exerted on gifted students. The labels such as "smarty-pants" commonly used to describe bright students in the fifties and sixties has been replaced by more negative labels such as "nerd", "dweeb" or "dork". Our brightest students often learn not to answer in class, to stop raising their hands and to minimize their abilities to avoid peer pressures.

A number of challenging curriculum options in science and language arts have been developed under the auspices of the federal Javits Education Act mentioned earlier. Several national programs have been developed or implemented for high ability students in many districts, regional service centers, and states. Many high ability students have the opportunity to participate in History Day in which students work individually or in small groups on an historical event, person from the past, or invention related to a theme that is determined each year. Using primary source data including diaries or other sources gathered in libraries, museums, and interviews, students prepare research papers, projects, media presentations or performances as entries. These entries are judged by local historians, educators, and other professionals and state finalists compete with winners from other states each June. Information about History Day can be obtained from state historical societies. Many model projects such as mentorships, Saturday programs, summer internships, and computer camps that are of extremely high quality continue to be implemented.

## Applying "Gifted" Education Pedagogy to Develop Talents in All Students

Much that has been learned and developed in gifted programs can offer exciting, creative alternatives in instruction and curriculum for all students. A rather impressive menu of exciting curricular adaptations, independent study and thinking skill strategies, grouping options, and enrichment strategies have been developed in gifted programs which could be used to improve schools. The Schoolwide Enrichment Model (Renzulli & Reis, 1985: 1007) has been field tested and implemented by hundreds of school districts across the country for the last nine years. Our experiences with schoolwide enrichment led us to realize that when an effective approach to

enrichment is implemented, all students in the school benefit and the entire school begins to improve. This led to the development of *Schools for Talent Development* (Renzulli, 1994). This approach seeks to apply strategies used in gifted programs to the entire school population, emphasizing talent development in *all* students through a variety of acceleration and enrichment strategies that have been discussed earlier. Not all students can, of course, participate in all advanced opportunities but many can work far beyond what they are currently asked to do. It is clear that our most advanced students need different types of educational experiences than they are currently receiving and that without these services, talents may not be nurtured in many American students, especially those who attend schools in which survival is a major daily goal. Specialists in the area of gifted education have also gained expertise in adjusting the regular curriculum to meet the needs of advanced students in a variety of ways including: accelerating content, incorporating a thematic approach, and substituting more challenging textbooks or assignments. The present range of instructional techniques used in most classrooms observed by Goodlad (1984) and his colleagues is vastly different than what is recommended in many gifted programs today. The flexibility in grouping that is encouraged in many gifted programs might also be helpful in other types of educational settings.

We can, therefore, make every attempt to share with other educators the technology we have gained in teaching students process skills, modifying the regular curriculum, and helping students become producers of knowledge (Renzulli, 1977). We can extend enrichment activities and provide staff development in the many principles that guide our programming models. Yet, without the changes at the local, state and national policy making levels that will alter the current emphasis on raising test scores and purchasing unchallenging, flat and downright sterile textbooks, our efforts may be insignificant.

These questions have led us to advocate a fundamental change in the ways the concept of giftedness should be viewed in the future. Except for certain functional purposes related mainly to professional focal points (i.e., research, training, legislation) and to ease-of-expression, we believe that labeling students as "the gifted" is counter-productive to the educational efforts aimed at providing supplementary educational experiences for certain students in the general school population. We believe that our field should shift its emphasis from a traditional concept of "being gifted" (or not being gifted) to a concern about the development of gifted behaviors in those youngsters who have the highest potential for benefiting from special educational services. This slight shift in terminology might appear insignificant, but we believe that it has implications for the entire way that we think about the concept of giftedness and the ways in which we should structure our identification and programming endeavors. This change in terminology may also provide the flexibility in both identification and programming endeavors that will encourage the inclusion of at-risk and underachieving students in our programs. If that occurs, not only will we be giving these high potential youngsters an opportunity to participate, we will also help to eliminate the charges of elitism and bias in grouping that are sometimes legitimately directed at some gifted programs.

We cannot forget that our schools should be places that seek to develop talents in children. We won't produce future Thomas Edisons or Marie Curies by forcing them to spend large amounts of their science and mathematics classes tutoring students who don't understand the material. A student who is tutoring others in a cooperative learning situation in mathematics may refine some of his or her basic skill processes, but this type of situation does not provide the level of challenge necessary for the most advanced types of involvement in the subject, nor for inspiring our young people to strive to develop their talents.

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In a day and age where we can move past our factory-model schools and personalize learning for all students, such that students can move at their own pace and not grow bored or disengaged and can dive deep into areas of passion, schools should no longer place labels on students to sort them.Â  I speak and write about the future of education and work with a portfolio of education organizations to improve the life of each and every student. Funded the National Research Center on the Gifted and Talented. The major emphasis of the program is on serving students traditionally underrepresented in gifted and talented programs, particularly economically disadvantaged, limited English proficient (LEP), and disabled students, to help reduce the serious gap in achievement among certain groups of students. No Child Left Behind.Â  Event which triggered increased American interest in high achievement, especially in math and science. National Defense Education Act. Funding provided to increase achievement in math and science for gifted students. Hard IQ cutoff at 130. Maryland Report.