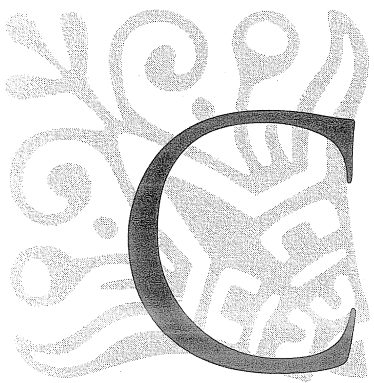


STUDENTS WHO ARE TWICE-EXCEPTIONAL



Children and adolescents with talents may also have specific disabilities; these children are twice-exceptional. Retrospective case studies of talented adults indicate that individuals with physical, sensory, or learning disabilities can achieve at high levels over the course of their lives. Children and adolescents also achieve, often in a context outside the school setting. Twice-exceptional children are characterized by intense motivation and the tendency to use intellectual abilities to ameliorate the effects of the disability. For example, even without expressive speech, early and fluent reading occurs among some learners with disabilities. Family and supportive teachers, counselors, and mentors play an important role in talent development by recognizing a twice-exceptional child's strengths, rather than exclusively focusing on the child's disability. Opportunities at home and school that focus on talents, provide assistance in bypassing the disability, or offer instruction in compensating for the disability foster giftedness in the twice-exceptional child.

WHAT WE KNOW

Talent and Disability

Because giftedness and talent are often identified by academic achievements and school success, children and adolescents with disabilities may be overlooked. They may have sensory or communication disabilities that make the expression of their talents invisible to others in the mainstreamed school context. If they are educated in specialized settings like residential schools for the blind or deaf, the disability orientation of the school program may overwhelm concerns about identifying and serving talented learners. Yet, history and popular literature offer numerous stories of the disabilities of eminent adults. Although the stories may be largely apocryphal, Thomas Edison's hearing loss or Albert Einstein's learning problems, for example, are offered as evidence that talent and disability are not mutually exclusive (Goertzel & Goertzel, 1962). More systematic evidence is available from case studies of adults who exhibit one or more disabilities, but who achieve despite them (Reis, Neu, & McGuire, 1995, 1997; Whitmore & Maker, 1985). Other case studies of children and adolescents with a range of talents and disabilities also shed light on the patterns of strengths and weaknesses and the home and school environments that maximize the development of the twice-exceptional child (Bailey & Sinclair, 1992; Hua, 2002; Kershner, 1995; Moon & Dillon, 1995; Willard-Holt, 1994, 1998).

Definition of Twice-Exceptional

The term *twice-exceptional* has been used to describe children "with special intellectual-processing problems [i.e., those with learning, communication, and/or behavioral disabilities], that nevertheless, maintain an extraordinarily high general intellectual potential" (Gallagher, 1988, p. 110). More broadly, these children may also have physical or sensory disabilities or a combination of multiple conditions identified through the Individuals with Disabilities Act (IDEA; 1990). For example, children affected by cerebral palsy, orthopedic impairments, deafness or hearing impairment, blindness, visual impairment or low vision, and a variety of specific learning disabilities may also be gifted (Cline & Schwartz, 1999; Johnsen & Corn, 1989). In terms of prevalence, the greatest numbers of twice-exceptional learners are likely to be those with a specific learning disability (Hokanson & Jospe, 1976). Nielsen (2002) notes, however, large-scale incidence figures "are virtually nonexistent" (p. 94).

Patterns of Talent Development and Disability

Information about the development of talents in children and youth with disabilities is found in case studies (Bailey & Sinclair, 1992; Ingraham, Daugherty, & Gorrafa, 1995; LaSasso, 1992; Moon & Dillon, 1995; Moon, Zentall, Grskovic, Hall, & Stormont, 2001; Reis et al., 1997; Willard-Holt, 1994, 1998); intervention studies (Baum, 1988; Coleman, 1992; Karnes, Shwedel, & Lewis, 1983a, 1983b; Nielsen, Higgins, & Hammond, 1993); and one longitudinal study (Vernon & LaFalce-Landers, 1993).

Although the patterns of talent development reported in the case studies differ widely, there are some commonalities among twice-exceptional individuals. First, motivation plays an important role in the development of talent among individuals with disabilities. For example, in the case study of Myron, a highly successful doctor and researcher, Whitmore and Maker (1985) noted that his intense desire to learn and early reading ability masked his hearing loss until he was 6 or 7 years of age. As an older student, he resisted the messages he was given about choosing another profession or an easier career path because of his deafness. Myron described his motivation as "perverse" and indicated that he often set challenging goals in order to "show them" he could succeed. As an adult, he directed a medical research center—an impressive career achievement for any physician. A second case reported by Whitmore and Maker displayed the same pattern of persistence in the face of obstruction; Abe, a congenitally blind mathematician with some light perception, was repeatedly denied employment in his field. Rather than give up his love for mathematics, Abe was encouraged by his family to attend graduate school in mathematics. Ultimately, he devised and was assisted in publishing the Nemeth Code, a means of transcribing mathematics for the blind that is in wide use today. Reis and her colleagues (1995) noted the same motivation and tendency toward persistence in 12 university students and graduates with learning disabilities. She reports that the majority of the students in this qualitative study "believed their capacity for hard work was their greatest asset" (p. 74). This pattern was also discernible in younger twice-exceptional students. Baum and Owen (1988) noted that gifted/learning-disabled students were persistent even though they were more likely to have lower academic self-efficacy when compared with learning-disabled students not identified as gifted. Willard-Holt (1994) reported that Jan, age 6, and Brad, age 14, repeatedly tried challenging tasks for hours at a time, sometimes without success. Both youngsters have cerebral palsy, are unable to speak, and have severely restricted movement. However, parents, teachers, classmates, and observers commented repeatedly that each boy is intensely motivated. For example, Willard-Holt (1994) reports in an interview with Brad's math teacher that "even when he feels sick, he wants to be here, like he's going to miss out on something. I think he shines at being motivated, way above and beyond the call of duty . . ." (p. 5).

Second, twice-exceptional learners develop coping strategies that compensate for their disabilities. In some cases, the strategies may have resulted

in the masking or late identification of either the disability or the talent area. For example, as stated earlier, Myron was not identified as deaf until the age of 6. He was able to learn to lip-read without formal instruction and filled in the gaps in conversations he could not hear so successfully that he carried on telephone conversations without assistance (Whitmore & Maker, 1985). Of the gifted/learning-disabled students studied by Reis et al. (1995, 1997), the learning disability was not isolated until secondary school or beyond for 7 of the 12. Two others were not identified as having a disability until fifth or sixth grade. Only 2 of the 12 were identified as talented by the schools, and this was not until middle school; one was formally placed and the other was referred but not placed. These students report a variety of coping strategies to overcome their disability: computer use, books on tape, borrowing notes from classmates to fill in gaps, mnemonics, note taking, time management, and setting work priorities. Identification of specific learning disabilities in high-ability learners may require longitudinal monitoring during the first 3 to 5 years of schooling (McCoach, Kehle, Bray, & Siegle, 2001).

Third, twice-exceptional learners frequently report or are observed to have feelings of isolation from others, which they attribute to the disability or to others' responses to the disability. In some cases, the disabilities are the source of isolation. For example, Alec's severe allergies required homebound instruction and the social isolation from peers that accompanied it (Moon & Dillon, 1995). Ingraham et al. (1995) reported that isolation from peers was exacerbated for three deaf-blind students by the presence of interpreters in inclusive classrooms. According to the authors, students viewed the interpreters as supervisory adults rather than as support personnel. The college students interviewed by Reis and her colleagues (1995, 1997, 2000) generally reported peer difficulties and feelings of isolation in school; however, the two students identified at the earliest grade levels were the exceptions, as they reported positive peer relations. Peer and adjustment problems were reported for elementary boys with co-occurring Attention Deficit/Hyperactivity Disorder (ADHD) and giftedness (Moon et al., 2001; Zentall, Moon, Hall, & Grskovic, 2001).

Finally, reading ability is one of the frequently mentioned indicators of giftedness among children without disabilities. Even though a number of the disabilities manifested in twice-exceptional children involve impairments in receptive and expressive language abilities, fluent reading is also a pattern among many of the individuals reported in the case study literature. Both Jan and Brad were early readers: Jan by age 3 (Willard-Holt, 1994). Moon and Dillon (1995) detailed a child who was a verbally gifted, fluent reader, but who also was learning disabled and sufficiently health impaired to receive homebound instruction. Toscano, McKee, and Lepoutre (2002) and Whitmore and Maker (1985) also reported fluent reading in the case of deafness—a disability that affects receptive and expressive communication. The pattern of fluent and intense reading was reported in the case studies of learners with physical or sensory impairments; it was not typical of individuals with specific learning disabilities.

Importance of Talent Recognition Among Learners With Disabilities

Identifying talented learners with disabilities is made more difficult by the many variations and combinations of conditions that may affect students' abilities to learn or to demonstrate what they can do. For example, the educational needs of a student who is deaf and one who is deaf and blind differ. The needs of a student who is deaf from birth or one who loses hearing after language develops also differ. The needs of a student with a specific writing disability differ from one who presents a disability in mathematics learning. The nature and severity of a student's disability affects the means used to identify his or her talents. For example, assessments for students with sensory or physical impairments are adapted to provide alternative means for responses by the learner (Cline & Schwartz, 1999; Whitmore & Maker, 1985). The performances of twice-exceptional students should be compared with the performances of others with the same disabilities (Karnes & Johnson, 1991). Such comparisons help educators understand the nature of the talent occurring with the disability and to acknowledge it. In general, educators are not familiar with twice-exceptionality or how to identify it (Blough, Rittenhouse, & Dancer, 1999; Boodoo, Bradley, Frontera, Pitts, & Wright, 1989). For example, Minner (1990) noted that classroom teachers had difficulty identifying a student as gifted or as gifted and learning disabled from sample case studies. Thus, comparative information is important for educators charged with identifying twice-exceptional learners.

In two studies evaluating the effects of a program for young gifted children with mild to moderate disabilities, Karnes et al. (1983a, 1983b) noted that involving parents in the identification of and planning for their child assisted the family in viewing their youngster as having strengths rather than focusing solely on the disability. The importance of family recognition and support appears over the course of the twice-exceptional learner's development. In the reports of gifted/learning-disabled college students, Reis and her colleagues (1995) found that all 12 commented on the strength of maternal support in helping them to achieve their goals. Although the researchers noted that parents differed in the ways they offered support, all parents stepped forward to work with schools when problems arose. Patterns of familial support appear in reports of other gifted/learning-disabled college students, as well (Dole, 2001).

For parents and schools who wish to provide stimulation at home or plan educational services for twice-exceptional students, four factors are important in making decisions. In terms of students with sensory impairments, Ingraham and her colleagues (1995) suggested that the etiology of the disability should be considered. For example, with retinitis pigmentosa, the eye condition will worsen progressively. Second, the age of onset of the disability is important for educational planning. If the child is born with the disability (congenital),

he may have no knowledge of a concept. If he acquired the disability later on (adventitious), there may be knowledge of a concept on which to build educational experiences. Third, the severity of the disability is a factor in educational planning. A child may be using remaining senses or other abilities to adapt well to the environment, and he or she may be capable of compensating significantly for the disability. Finally, the prior learning related to the disability will assist parents and educators in focusing on strengths. If the student can lip-read, use a communication board, read Braille, or take notes with a computer, key skills are already in place.

The overarching issue for parents with twice-exceptional children and the schools that serve them is to recognize the talent aggressively and plan individually to provide academic assistance and emotional support from the early years through the college experience.

WHAT WE CAN DO

At Home

☛ Resist the assumption that learners with physical or emotional disabilities, sensory impairments, lack of expressive speech, or specific learning disabilities cannot be academically talented. Evidence from case studies of children (Moon & Dillon, 1995; Willard-Holt, 1994, 1998) and adults (Dole, 2001; Whitmore & Maker, 1985) demonstrates that twice-exceptional individuals can be found early and do develop into successful and creative adults.

☛ Share with parents the importance of family support. Case studies of children, college students, and adults repeat the theme of parental support, especially by mothers (Reis et al., 1995; Whitmore & Maker, 1985; Willard-Holt, 1994).

In the Classroom

☛ Overtly teach compensating and coping strategies, particularly to talented students who also have a specific learning disability (Sah & Borland, 1989). Reis and her colleagues (1997, 2000) noted that assistance is welcomed and incorporated by students even when they have reached college age.

At School

☛ Modify identification procedures to include assessments that have been adapted for specific physical, hearing, or visual impairments. When using the

assessments, compare the students' performance to the performance of others with similar or a combination of similar disabilities (Karnes & Johnson, 1991).

☛ Adopt a talent development orientation to educational planning. If a student is in a setting that focuses exclusively on remediation, the talent area should be addressed. Educational planning teams should include professionals who concentrate on academic strengths, as well as those whose expertise is in assistive technology and adaptations to learning disabilities (Nielsen, 2002; Nielsen et al., 1993).

☛ Explain to family and schools that the particular educational adaptations need to account for the age of the onset of the disability. For example, adaptations for deaf students differ depending upon whether the child has heard speech during the early formative years or has been without hearing since birth (Ingraham et al., 1995).

REFERENCES

- Bailey, S., & Sinclair, R. (1992). Out of sight but not out of mind. *Gifted Education International*, 8, 114-116.
- Baum, S. M. (1988). An enrichment program for gifted learning disabled students. *Gifted Child Quarterly*, 32, 226-230.
- Baum, S. M., & Owen, S. (1988). High ability/learning disabled students: How are they different? *Gifted Child Quarterly*, 32, 321-326.
- Blough, L. K., Rittenhouse, R. K., & Dancer, J. (1999). Identification of gifted deaf children: A complex but critical educational process. *Perceptual and Motor Skills*, 89, 219-221.
- Boodoo, G. M., Bradley, C. I., Frontera, R. L., Pitts, J. R., & Wright, L. P. (1989). A survey of procedures used for identifying gifted learning disabled children. *Gifted Child Quarterly*, 33, 110-114.
- Cline, S., & Schwartz, D. (1999). *Diverse populations of gifted children: Meeting their needs in the regular classroom and beyond*. Upper Saddle River, NJ: Prentice-Hall.
- Coleman, M. R. (1992). A comparison of how gifted/LD and average/LD boys cope with school frustration. *Journal for the Education of the Gifted*, 15, 239-265.
- Dole, S. (2001). Reconciling contradictions: Identify formation in individuals with giftedness and learning disabilities. *Journal for the Education of the Gifted*, 25, 103-137.
- Gallagher, J. J. (1988). National agenda for educating gifted students: Statement of priorities. *Exceptional Children*, 55, 107-114.
- Goertzel, V., & Goertzel, M. G. (1962). *Cradles of eminence*. Boston: Little, Brown.
- Hokanson, D. T., & Jospe, M. (1976). *The search for cognitive giftedness in exceptional children*. New Haven, CT: Project SEARCH, Educational Center for the Arts. (ERIC Document Reproduction Service No. ED140563)
- Hua, C. B. (2002). Career self-efficacy of the student who is gifted/learning disabled: A case study. *Journal for the Education of the Gifted*, 4, 375-404.
- Individuals with Disabilities Education Act, 20 U.S.C. §1401 et seq. (1990).