



# Twice-exceptional Students

by Francis Wardle

Besides being famous, what characteristics do all these people have in common?

- Stephen Hawking
- Franklin D. Roosevelt
- Albert Einstein
- James Earl Jones
- Sarah Barnhart
- Winston Churchill
- Walt Disney
- Helen Keller
- Temple Grandin
- Thomas Edison
- Ludwig van Beethoven

All these individuals are twice exceptional: a person with one or more special needs who is also gifted and talented (Hunt & Marshall, 2012). Twice-exceptional people have unique needs; young twice-exceptional students — age birth to age eight-years-old — pose unique challenges for early childhood programs.

## Challenges of Young, Twice-exceptional Students

As early childhood programs engage in early identification of children with special needs, and as programs find various ways to meet the needs of children with developmental delays, twice-exceptional children pose additional challenges. One challenge is that a student's disability may be identified — or at least recognized — but their giftedness is not. According to Clark (2013), teachers often have stereotypical views of both children with disabilities and those who are gifted. Because of this bias, they may not understand that children with disabilities can be gifted, and that some gifted children require special education services to succeed. This is partly because giftedness is difficult to identify in young children (Sweeney, 2007), and a child with obvious gifts in one or more areas can mask his disabilities. A general definition of a gifted and

talented child is a student with a high level of performance or the potential for such performance beyond which is expected of typically developing individuals of the same age (Clark, 2013; Sweeney, 2007). Another problem is that a twice-exceptional child's disability may prevent the child from demonstrating his giftedness (Sweeney, 2007).

But the main problem is not one of being identified — after all, it's often difficult to identify young children with disabilities or developmental delays; and in most cases, gifted students are not even officially identified until after they enter a regular school program. The main challenge is that young children who are twice exceptional often do not benefit from traditional special education approaches, especially those that focus on: 1) direct instruction, 2) simplifying — and 'dumbing-down' — the overall lesson or task, and 3) ABA approaches (applied behavior analysis, a specific behavior modification approach very popular in special education)(Clark, 2013; Gargiulo, 2015).

## Working with Twice-exceptional Students

Instructional and intervention approaches typically used with young children with special needs are often unsuccessful for young twice-exceptional students because



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gifted students learn differently than students who are not gifted and talented. For example, gifted students:

- do not like to follow directions.
- need to be challenged at their intellectual level; they require direct exposure to high level, abstract concepts.
- get bored easily; and then become disruptive.
- often do not see the value of external rewards.
- are perfectionists; thus they are super-sensitive to criticism.
- talk a great deal (also when not being talked to) and move around a lot.
- focus on learning broad concepts, patterns, and constructs, rather than discrete skills and small units of information.
- want to feel they are choosing and controlling every aspect of their own learning.

(Clark, 2013; Sweeney, 2007; Weinfeld, Barnes-Robinson, Jeweler & Shevitz, 2005).

Thus the challenge for early childhood programs working with twice-exceptional children is to address areas of weakness and delay while enhancing and enriching all the other areas of the child's growth and development (Weinfeld, Barnes-Robinson, Jeweler & Shevitz, 2005).

## Teaching the Young Child Who is Twice Exceptional

Teaching the young twice-exceptional child requires careful and constant attention to three broad areas:

- Consider that a young child who has been identified with a developmental delay or special need may also be

gifted and talented; and consider a child who is gifted and talented in at least one area may also have a special need or delay. Also remember that, according to Clark (2013), a child may be gifted and talented in one or more of these areas: academic, cognitive, creative, leadership, and the visual and performing arts.

- Recognize that, while some children have special needs or a developmental delay in one or more areas, in other areas they are developing typically, or they may be advanced (gifted and talented). Thus a child confined to a wheelchair might be gifted in math; a child with challenging behavior problems might be a computer genius; and a child with a specific learning disability in reading may be highly advanced intellectually while developing typically in her physical, emotional and social domains.
- Make sure that when a child's special needs are being addressed, other areas of development are not neglected; further, never withhold an activity in areas in which a child excels as punishment for when a child struggles in other areas. For the twice-exceptional child, this means that areas in which the child is gifted and talented must be nurtured and challenged (Weinfeld, Barnes-Robinson, Jeweler & Shevitz, 2005).

## Three Specific Models to Use with Twice-exceptional Students

There are three specific educational models that are helpful when teaching young twice-exceptional students. These are: 1) Howard Gardner's theory of multiple intelligences or learning styles, 2) Bloom's *Taxonomy of Educational Objectives: Cognitive Domain*, and 3) the Integrative Education Model (IEM). While these are separate frameworks, there is some overlap.

## Gardner's Theory of Multiple Intelligences

Traditionally in early childhood programs, literacy, math and science, the arts, physical activities, use of the outdoors, and involvement in a variety of social activities are integrated throughout the school day. Howard Gardner took this idea a step further, arguing that individuals process information and solve problems using one or more of these areas — what he called intelligences or learning styles (1983). For twice-exceptional children, use of Gardner's model encourages teachers to find a match between a student's strengths and learning styles, so that students can be challenged and successful. Many twice-exceptional students are not successful using the traditional intelligences, verbal and logical mathematical, so it is important to capitalize on the intelligences they do use. Gardner's eight intelligences are:

- **Verbal/linguistic** — students who are very verbal and solve problems verbally. These students excel in reading and writing.
- **Logical/mathematical** — students who use logic, do well in math, and are linear learners. They also tend to be successful in traditional science activities.
- **Spatial** — students who have an ability in art, design, graphics, map-making, and drawing. They often excel in computer generated graphic activities.
- **Musical** — students who have perfect pitch, memorize tunes easily, create harmonies, and can repeat complex musical structures.
- **Naturalistic** — children who love nature, have a green thumb, enjoy caring for animals (i.e., in 4H), and get involved in ecological projects.

- **Bodily kinesthetic** — children who excel in hands-on learning, need to move around a lot, and have awareness of their bodies in space — through dance, gymnastics, and so on. These children are often misdiagnosed with ADHD (Clark, 2013).
- **Interpersonal** — children who are very social: they have an innate ability to be able to get along with everyone. However, sometimes this leads to problems when they mobilize children in challenging rules and authority.
- **Intrapersonal** — children who are sensitive to, accurately assess, and regulate themselves, and behave according to this self-understanding (Gardner, 1983).

Children who struggle in the traditional classroom activities often excel in other areas: art, bodily-kinesthetic, music, interpersonal, nature, and so on. These students need alternative and innovative approaches to learn, and they should be encouraged and challenged to excel in these areas, while also mastering basic literacy and math objectives.

### **Bloom's Taxonomy of Educational Objectives: Cognitive Domain**

Bloom's Taxonomy of Educational Objectives — Cognitive Domain, provides a variety of levels of learning, beginning at the most basic — knowledge — and ending with evaluation (1956). According to Clark (2013), the hierarchy should be used to present learning at a variety of levels, and to match each student's abilities and their need to learn at a faster pace. The levels are:

- **Knowledge** — knowing and memorizing specific information.
- **Comprehension** — translating information into one's own words.
- **Application** — using knowledge in new ways and situations.

- **Analysis** — breaking information into elements and categories.
- **Synthesis** — putting together parts to form a whole; using original, creative thinking.
- **Evaluation** — judging and evaluating ideas, materials, and approaches using predetermined standards and criteria (Bloom, 1956).

Traditionally, teachers have used the taxonomy in a linear, progressive manner (Clark, 2013): the lower levels must be mastered before students are exposed to higher levels of learning. Clark suggests this approach is not effective with gifted students, who need frequent opportunities to work at the more advanced levels. Thus she suggests the taxonomy should be used in a cyclical manner. But special education approaches tend to focus on the lower levels, making sure students know and can regurgitate basic knowledge before they are expected to apply the knowledge (Clark, 2013; Gargiulo, 2015), and breaking information and skills into their smallest and most basic units or parts (Ormrod, 2011).

### **Integrative Education Model**

The Integrative Education Model is a framework of instruction based on knowledge obtained from recent research on brain development and learning (Clark, 1986). The components of IEM are:

- **Responsive learning environment.** Both the social-emotional environment and physical environment need to support optimum learning. This includes an environment rich in materials and focused on experimentation and student involvement. Most instruction is individual and in small groups, and the student is an active participant in the learning process. Cognitive, physical, affective

and intuitive activities are all equally valued.

- **Complex and challenging cognitive activities.** Learning activities need to include novelty, complexity, variety, and challenges. These activities need to match the level of each learner, and should be paced to meet each child's needs. Students are given choices and share responsibility for planning and learning.
- **Empowering language and behavior.** Because positive emotions trigger production of chemicals that enhance brain functions, positive language between students, and between teachers and students should be used, and a supportive and empowering community must be created and maintained. Teachers provide positive feedback and 'I' messages, use questions to encourage responsibility of learning, support student self-evaluation, and scaffold students' use of positive private speech.
- **Choice and perceived control.** Activities that include decision-making, align personal values and learning objectives, and develop self-evaluation and alternative solutions are encouraged. Choices of the environment and activities are provided, and choices can also be given regarding how non-negotiables are accomplished. Mistakes are valued as learning opportunities; students are assisted in developing behavioral expectations and classroom and playground rules.
- **Movement and physical encoding.** Research shows that movement and physical encoding increase understanding and retention. Ways to include this in learning:
  - Purposeful movement in the classroom (i.e., dance activities).

- Use of touch, smell, and taste as part of the learning process (i.e., concrete learning, gardening, field trips, and projects).
- Use of the body to encode learning (i.e., using physical movement to make things easier to learn and remember).
- Intuition and integration. Creativity and intuition are critical for optimal learning. Thus learning activities need to be multisensory, multidisciplinary, and integrative. Teachers should use imagery, fantasy, and visualization to support learning, and provide open-ended 'what if' strategies (Clark, 1986).

For twice-exceptional students, teachers will need to address areas of weakness and developmental delays, but the strategies, approaches, and techniques used to address these objectives should be integrated within the Integrative Education Model (Clark, 2013). Critically, as we have already suggested, students should never be denied access to the more creative, intuitive, one-ended and challenging activities as punishment when addressing deficiencies.

Twice-exceptional children often struggle in early childhood programs (birth to age 8). They struggle because not only do they have one or more special needs or developmental delays, but they are also gifted and talented. They are often not identified as twice exceptional, for a variety of reasons; worse, these students do not respond well to typical approaches often used with young children who have various special needs. Thus early childhood programs have a responsibility to find ways to meet the unique needs of their twice-exceptional students.

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