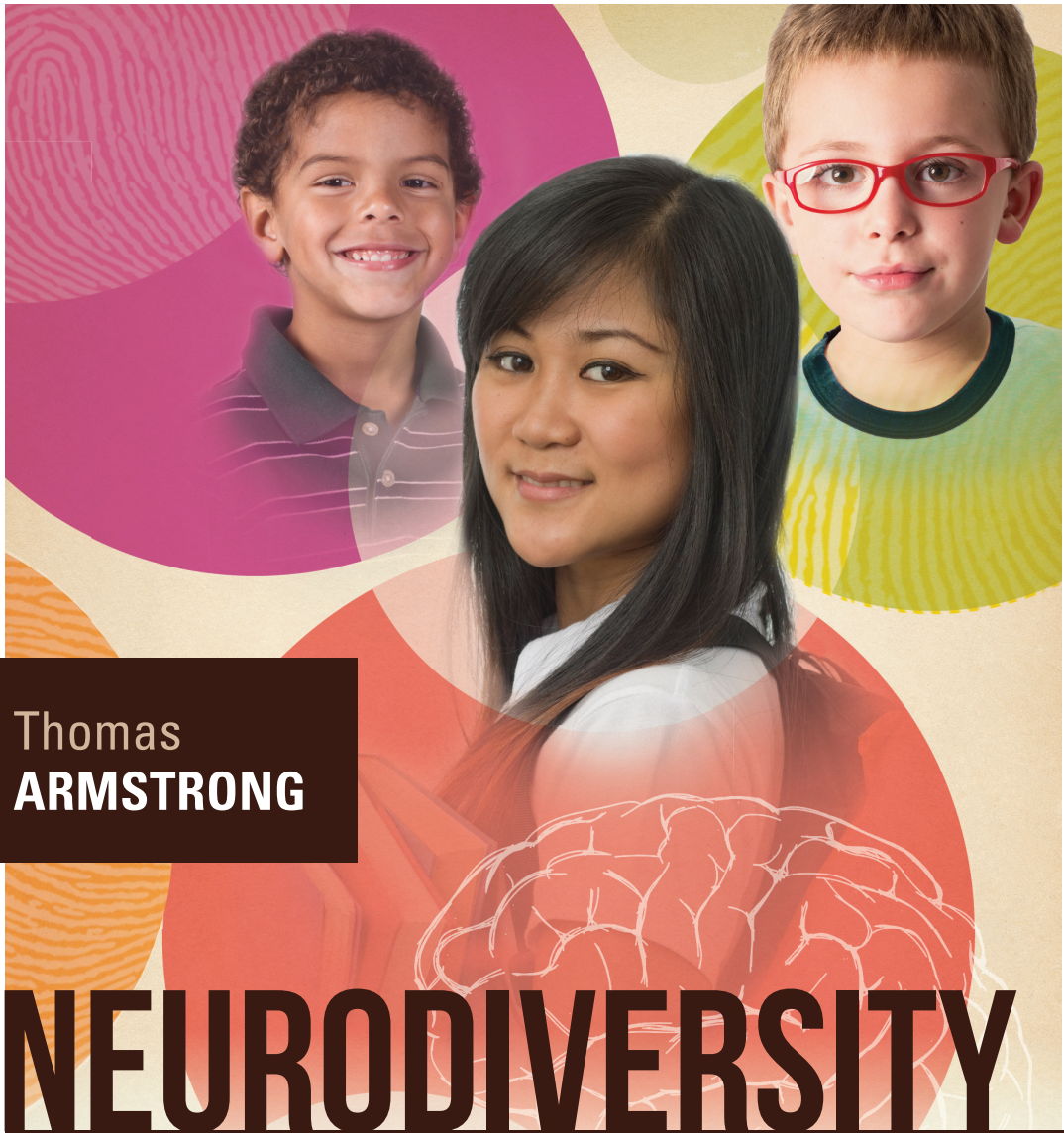

Thomas
ARMSTRONG

NEURODIVERSITY
in the Classroom

Strength-Based Strategies
to Help Students with Special Needs
Succeed in School and Life

1703 N. Beauregard St. • Alexandria, VA 22311 1714 USA
Phone: 800-933-2723 or 703-578-9600 • Fax: 703-575-5400
Website: www.ascd.org • E-mail: member@ascd.org
Author guidelines: www.ascd.org/write

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Neurodiversity in the Classroom

Introduction

I remember the day like it was yesterday. I had just been hired for my first teaching job in Montreal, Canada, as a special education teacher. My district supervisor wanted to take me around and show me some model special education programs before I actually began teaching. We entered the first classroom, where there were about 10 students working (or at least sitting) quietly at their desks. They were about 8 or 9 years old. I was especially impressed by how quiet they were—overly quiet, really. The special education teacher welcomed us into her classroom with a broad smile. Then, in a voice loud enough to be heard by all the children, she announced, "These are my *slow* students."

My heart sank and I thought to myself, "Is the teacher insane? Doesn't she realize that these kids have *ears*?" I felt embarrassed standing there, as if I myself was a party to this gross insensitivity.

The moment passed, however, and before long I was taking charge of my own junior high special education classroom. My students were not overly quiet. In fact, I had a knack (some might say a curse) for bringing out in my students whatever shadowy emotions were swirling around just below the surface. Not infrequently, my students

would come up to me and ask, "Mr. A., why do we have to be in this *retarded* classroom?" I'd mumble something about their needing extra help and would leave it at that. But I was troubled by the question.

Over the next several years of teaching, I'd be confronted again and again with this basic dilemma. On the one hand, I was providing students with special help to remediate their learning and behavior difficulties, which was good. On the other hand, I was also presiding over a system that segregated these kids based upon their negative attributes, which wasn't so good. As one former special education student, now an adult, told me, "They thought I was bad at something, so they tested me to find exactly how bad I was at it, and then spent the next years of my life making me do what I was bad at as much as possible."

Take a moment to consider this little thought experiment. Think about your greatest difficulty or limitation in life, whatever that might be (academic or nonacademic). Now imagine that you have been tested and found wanting in that area, and that you are then sent to a special program where you spend most of your time focusing on that area. Not a very pretty picture, is it? Yet this is what many children in special education face on a daily basis.

The history of special education in the United States, of course, presents a more complex picture. Without going into the whole legislative history, suffice it to say that during the 1960s and 1970s, due in large part to concerted parent advocacy efforts, increasing government involvement in education, and the growth of scientific research regarding special needs issues, our public schools underwent a sea change in providing services for kids in special education (Osgood, 2007). A breakthrough was achieved in 1975 with the passage of the Education for All Handicapped Children Act, which mandated that every child with special needs in the public schools receive an appropriate education in the least restrictive environment. I started working as a learning disability specialist in 1976. Since that time, research in genetics, the brain, human development, and related fields has

increased exponentially, providing an even greater awareness of the needs of children who have been previously unserved or underserved in special education programs.

In the 1980s and 1990s, children diagnosed with attention deficit hyperactivity disorder (ADHD) and related problems such as oppositional defiant disorder and Tourette syndrome were added to the list of those served. In the past decade, children identified as having one or more of the autistic spectrum disorders have been increasingly identified and served in special education programs. Despite the fact that legislative loopholes, budget problems, and lack of public awareness still prevent many eligible students from receiving the services they deserve, one must stand back and marvel at the progress that has been made in special education since the 1950s, when only a handful of children with particularly severe needs were served in the schools, if they were served at all.

As I look back on these developments in special education, I see that it is far better for a child to have her special learning needs identified and addressed in school rather than to languish unrecognized in a regular classroom or be excluded from school entirely. At the same time, since the very beginning of my involvement in special education, I have been concerned about the negativity inherent in the "disability discourse" that takes place in education when we talk about kids with special needs. I am speaking here of an institutionalized discourse consisting of specific words such as *disability, disorder, deficit,* and *dysfunction* to describe students. In many of my previous writings, I have criticized special education for identifying certain children based on what they *can't* do rather than on what they *can* do (see, for example, Armstrong, 1996, 1997, 2000, 2001). It's interesting to me that kids these days often use the phrase "He *dissed* me!" to indicate that they've just been insulted or disrespected. Isn't it possible that we're doing the same thing, albeit in an institutionalied way, when we identify certain kids in school according to what's *wrong* with them?

About This Book

This book is a practical guide for regular and special educators on taking *strengths* as the starting point when helping students with special needs achieve success in school and life. In Chapter 1, I introduce the idea of *neurodiversity*, a revolutionary new concept in special education that employs a positive "diversity" perspective similar to biodiversity and cultural diversity to replace the current "disability" discourse that prevails in today's educational circles. I discuss how the concept has developed over the past decade, and how it can be useful to teachers and administrators of both general and special education in framing a more positive view of students with special needs. Because neurodiversity is essentially an ecological perspective, I also develop the related concept of *positive niche construction*—that is, the establishment of a favorable environment within which a student with special needs can flourish in school. This concept, taken from the fields of biology and ecology, serves as a more positive and constructive way of talking about the federal mandate that students be placed in the "least restrictive environment." Instead of spending all of our efforts in trying to make students with special needs more like "normal" students, I propose we devote more attention to accepting and celebrating their differences. The final part of Chapter 1 describes seven components for positive niche construction, including

1. A comprehensive assessment of a student's strengths,
2. The use of assistive technologies and Universal Design for Learning methodologies,
3. The provision of enhanced human resources,
4. The implementation of strength-based learning strategies,
5. The envisioning of positive role models,
6. The activation of affirmative career aspirations, and
7. The engineering of appropriate environmental modifications to support the development of neurodiverse students.

This strength-based approach can serve as a new way to enrich the field of differentiated instruction by ensuring that we develop teaching interventions that address what is unique and positive about each individual student.

In Chapters 2 through 6, I apply the concepts of neurodiversity and positive niche construction to the following five special needs categories: learning disabilities, ADD/ADHD, autistic spectrum disorders, intellectual disabilities, and emotional and behavioral disorders. In each of these chapters, I examine research that details the strengths, talents, and abilities of students with these specific special needs and describe how to apply the seven components of positive niche construction for each disability category. In each of these chapters, I also show how positive niche construction aligns with the Common Core State Standards and provide examples of how to teach and assess specific English language arts and mathematics standards for students with different special needs.

In Chapter 7, I relate the idea of identifying strength-based learning to inclusive practices by describing the work of the William W. Henderson Inclusion School in Dorchester, Massachusetts. This school represents an exemplary model of inclusion that utilizes many of the practices discussed in this book. I also explore some of the key features of strength-based schools, including the application of Appreciative Inquiry as a method to help create more positive IEPs and the use of a 165-item Neurodiversity Strengths Checklist that educators can use to ensure that each student's strengths are fully identified and incorporated in a meaningful way into their studies.

It is my hope that this book will help change the conversation about students with special needs from a *disability* discourse to a *diversity* discourse. The years I spent as a special education teacher and as a consultant to schools convinced me that the key to helping children with deficits is to first find out as much as we can about their strengths. As part of my consulting work, I used to go into school

districts and ask administrators to give me the cumulative files of their most difficult students. I would then take a yellow marker and highlight all the strengths that I noticed: teachers' comments, test scores, grades, and other positive data. Oftentimes this process would reduce a cumulative file of a hundred or more pages to two or three sheets. I would then distribute these two or three pages to participants at the student's IEP meeting. Upon confronting only positive information about the child, participants in the meeting would begin to remember other positive events and attributes, and this would very often lead them to generate new constructive strategies for helping the student succeed in school.

Ultimately, my wish is that this book will assist you in developing a new appreciation for the positive side of your students with special needs, and inspire you to get to work right away in constructing positive environments within which they can blossom.

1 Neurodiversity: The New Diversity

Defects, disorders, diseases can play a paradoxical role, by bringing out latent powers, developments, evolutions, forms of life, that might never be seen, or even be imaginable, in their absence.

—*Oliver Sacks,* neurologist

It was the start of a new school year. Mr. Farmington, a first-year 5th grade teacher, was perusing his roster of incoming students when it hit him like a ton of bricks: In his class this year, he was going to have two students with learning disabilities, one student with ADHD, one with autism, one with Down syndrome, and one with an emotional disorder. In a class of 30 students, this ratio seemed like too much to bear. Inclusion is all well and good, thought Mr. Farmington, but he already had too much to do. Disgruntled, he took his roster and his misgivings to his principal, Ms. Silvers.

"I'm not trained as a special education teacher," he told her. "Who's going to help me with all the problems I'm going to face with these kids?"

Ms. Silvers listened carefully to Mr. Farmington's concerns. She understood where he was coming from. She'd heard complaints like his from

teachers before and had often responded by reassigning at least some of the special education kids to other classrooms. But in this case, she decided to handle the situation a little bit differently.

"Bill," she said, "I know that you're thinking about these kids as problems and believe that they're just going to make your year harder. First of all, let me assure you that you're going to get a lot of support from the special education staff. But there's something else I want you to know. What if I were to tell you that these kids have talents and abilities that are going to enhance your classroom, and that even might make your year easier and more enjoyable? One of the boys that we diagnosed as having a learning disability is totally into machines and can fix just about anything mechanical. The child with autism is absolutely obsessed with military battles, which should be an asset in your history lessons. The girl with Down syndrome was reported by her 4th grade teacher to be one of the friendliest kids she'd ever worked with in her 30 years of teaching. And the boy with an emotional disorder happens to be an artist who has exhibited his work at a local art gallery."

"Wow," said Mr. Farmington. "I had no idea. I guess I was just reacting to their labels. Thanks for the heads-up."

Mr. Farmington left the meeting with a new, more positive attitude about his kids with special needs and a greater willingness to give them a chance to succeed in his classroom.

The above scenario may strike some as overly optimistic, but it raises an important question: Is it better to think about students with special needs as liabilities or as assets? If it's better to perceive them as assets, then why aren't we doing a better job of identifying their strengths? Google the phrase "strengths of students in special education," and you're likely to find a wide selection of websites focused on the pros and cons of inclusion and labeling, but practically nothing about the specific strengths of kids in special education.

The truth is that since the beginning of special education in the early 1950s, the conversation about children with special needs has been almost exclusively a *disability discourse.* In one way this makes perfect sense. After all, we're talking about kids who are labeled as special education students precisely because they've had difficulties of one kind or another in the classroom. But if we truly want to help these kids succeed in school and in life, it seems to me that we need to make a comprehensive, all-out inventory of their strengths, interests, and capabilities. To do this, we need a new paradigm that isn't solely based upon deficit, disorder, and dysfunction. Fortunately, a new way of thinking about students with special needs has emerged on the horizon to help us: *neurodiversity.*

Neurodiversity: A Concept Whose Time Has Come

The idea of neurodiversity is really a paradigm shift in how we think about kids in special education. Instead of regarding these students as suffering from deficit, disease, or dysfunction, neurodiversity suggests that we speak about their *strengths.* Neurodiversity urges us to discuss brain diversity using the same kind of discourse that we employ when we talk about biodiversity and cultural diversity. We don't pathologize a calla lily by saying that it has a "petal deficit disorder." We simply appreciate its unique beauty. We don't diagnose individuals who have skin color that is different from our own as suffering from "pigmentation dysfunction." That would be racist. Similarly, we ought not to pathologize children who have different kinds of brains and different ways of thinking and learning.

Although the origins of the neurodiversity movement go back to autism activist Jim Sinclair's 1993 essay "Don't Mourn for Us," the term *neurodiversity* was actually coined in the late 1990s by two individuals: journalist Harvey Blume and autism advocate Judy Singer. Blume wrote in 1998, "Neurodiversity may be every bit as crucial for

the human race as biodiversity is for life in general. Who can say what form of wiring will prove best at any given moment? Cybernetics and computer culture, for example, may favor a somewhat autistic cast of mind." In 1999, Singer observed, "For me, the key significance of the 'Autistic Spectrum' lies in its call for and anticipation of a politics of Neurological Diversity, or what I want to call 'Neurodiversity.' The 'Neurologically Different' represent a new addition to the familiar political categories of class/gender/race and will augment the insights of the social model of disability" (p. 64).

According to a widely disseminated definition on the Internet, neurodiversity is "an idea which asserts that atypical (neurodivergent) neurological development is a normal human difference that is to be recognized and respected as any other human variation." The online *Double-Tongued Dictionary* characterizes neurodiversity as "the whole of human mental or psychological neurological structures or behaviors, seen as not necessarily problematic, but as alternate, acceptable forms of human biology" (2004). The term *neurodiversity* has gathered momentum in the autistic community and is spreading beyond it to include groups identified with other disability categories including learning disabilities, intellectual disabilities, ADD/ADHD, and mood disorders (see, for example, Antonetta, 2007; Baker, 2010; Hendrickx, 2010; and Pollock, 2009).

This new term has great appeal because it reflects both the difficulties that neurodiverse people face (including the lack of toleration by so-called "normal" or "neurotypical" individuals) as well as the positive dimensions of their lives. Neurodiversity helps make sense of emerging research in neuroscience and cognitive psychology that reveals much about the positive side of individuals with disabilities. It sheds light on the work of Cambridge University researcher Simon Baron-Cohen, who has investigated how the strengths of individuals with autism relate to systems thinking in fields such as computer programming and mathematics (Baron-Cohen, 2003). It manifests itself in

the work of University of Wisconsin and Boston College researchers Katya von Karolyi and Ellen Winner, who have investigated the three-dimensional gifts of people with dyslexia (Karolyi, Winner, Gray, & Sherman, 2003). It shows up in the works of best-selling author and neurologist Oliver Sacks, whose many books of essays chronicle the lives of neurodiverse individuals (a term he doesn't use, but of which I think he would approve) as they experience both the ups and downs of their atypical neurological makeup (Sacks, 1996, 1998, 2008).

We should keep in mind that the term *neurodiversity* is not an attempt to whitewash the suffering undergone by neurodiverse people or to romanticize what many still consider to be terrible afflictions (see Kramer, 2005, for a critique of those who romanticize depression). Rather, neurodiversity seeks to acknowledge the richness and complexity of human nature and of the human brain. The concept of neurodiversity gives us a context for understanding why we are so frequently delighted with Calvin's ADHD behavior in the *Calvin & Hobbes* comic strip, amused by Tony Shalhoub's obsessive-compulsive detective on the TV show *Monk,* and inspired by Russell Crowe's performance as Nobel Prize winner John Nash (who has schizophrenia) in the movie *A Brilliant Mind.*

The implications of neurodiversity for education are enormous. Both regular and special education educators have an opportunity to step out of the box and embrace an entirely new trend in thinking about human diversity. Rather than putting kids into separate disability categories and using outmoded tools and language to work with them, educators can use tools and language inspired by the ecology movement to differentiate learning and help kids succeed in the classroom. Until now, the metaphor most often used to describe the brain has been a computer or some other type of machine. But the human brain isn't hardware or software; it's *wetware*. The more we study the brain, the more we understand that it functions less like a computer and more like an ecosystem. The work of Nobel Prize–winning

biologist Gerald Edelman supports this view (see, for example, Edelman, 1987, 1998). Edelman wrote, "The brain is in no sense like any kind of instruction machine, like a computer. Each individual's brain is more like a unique rainforest, teeming with growth, decay, competition, diversity, and selection" (quoted in Cornwell, 2007). In fact, the term *brainforest* may serve as an excellent metaphor when discussing how the brain responds to trauma by redirecting growth along alternative neurological pathways, and in explaining how genetic "flaws" may bring with them advantages as well disadvantages. Disorders such as autism, ADHD, bipolar disorder, and learning disabilities have been in the gene pool for a long time. There must be a reason why they're still there. As we'll see in the course of this book, the work of evolutionary psychologists represents a key component in exploring this fascinating question.

The use of ecological metaphors suggests an approach to teaching as well. After all, regular classroom teachers are far more likely to want a "rare and beautiful flower" in their classroom than a "broken," "damaged," or "problem" child. Just as we accept that individual species of plants have specific environmental needs (e.g., sun, soil, water), we need to understand that neurodiverse children require unique ecological nutrients in order to blossom. Teachers should not seek to "cure," "fix," "repair," "remediate," or even "ameliorate" a child's "disability." In this old model, kids are either made to approximate the norm (especially for national accountability tests) or helped to cope with their differences as best they can (the cliché that students can learn to live successful and productive lives "despite" their "disabilities" comes to mind here). Instead, teachers should seek to discover students' unique requirements for optimal growth, and then implement differentiated strategies to help them bloom.

Positive Niche Construction

In the neurodiversity model, there is no "normal" brain sitting in a vat somewhere at the Smithsonian or National Institutes of Health to

which all other brains must be compared. Instead, there are a wide diversity of brains populating this world. The neurodiversity-inspired educator will have a deep respect for each child's unique brain and seek to create the best differentiated learning environment within which it can thrive. This practice of differentiating instruction for the neurodiverse brain will be referred to in the course of this book as *positive niche construction*.

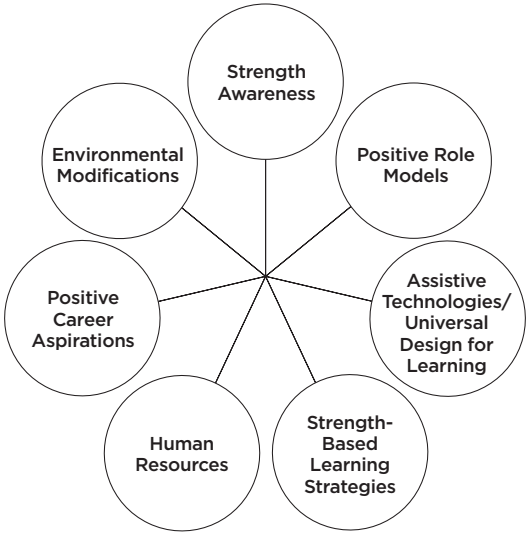
In the field of biology, the term *niche construction* is used to describe an emerging phenomenon in the understanding of human evolution. Since the days of Darwin, scientists have emphasized the importance of *natural selection* in evolution—the process whereby organisms better adapted to their environment tend to survive and produce more offspring. In natural selection, the environment represents a static entity to which a species must either adapt or fail to adapt. In niche construction, however, the species *acts directly upon the environment* to change it, thereby creating more favorable conditions for its survival and the passing on of its genes. Scientists now say that niche construction may be every bit as important for survival as natural selection (Lewontin, 2010; Odling-Smee, Laland, & Feldman, 2003).

We see many examples of niche construction in nature: a beaver building a dam, bees creating a hive, a spider spinning a web, a bird building a nest. All of these creatures are changing their immediate environment in order to ensure their survival. Essentially, they're creating their own version of a "least restrictive environment." In this book, I present seven basic components of positive niche construction to help teachers differentiate instruction for students with special needs (see Figure 1.1).

Strength Awareness

If our only knowledge about students with special needs is limited to the negatives in their lives—low test scores, low grades, negative behavior reports, and deficit-oriented diagnostic labels—then our ability to differentiate learning effectively is significantly restricted.

1.1 Components of Positive Niche Construction



Research suggests that teacher expectations powerfully influence student outcomes—a phenomenon that has been variously described as "the Pygmalion effect," "the Hawthorne effect," "the halo effect," and the "placebo effect" (see, for example, Rosenthal & Jacobson, 2003; Weinstein, 2004). As Paugh and Dudley-Marling (2011) note, "'deficit' constructions of learners and learning continue to dominate how students are viewed, how school environments are organized, and how assessment and instruction are implemented" (p. 819).

Perhaps the most important tool we can use to help build a positive niche for the neurodiverse brain is our own rich understanding of each student's strengths. The positive expectations that we carry around with us help to enrich a student's "life space," to use psychologist Kurt Lewin's (1997) term. Educators practicing positive niche construction should become well-versed in a range of strength-based models of learning, including Gardner's theory of

multiple intelligences (Armstrong, 2009; Gardner, 1993), the Search Institute's Developmental Assets framework (Benson, 1997), Clifton StrengthsFinder (Gallup Youth Development Specialists, 2007), the Myers-Briggs Type Indicator (Myers, 1995), and Dunn and Dunn's learning style approach (Dunn & Dunn, 1992). Educators ought to know what students in special education are passionate about; what their interests, goals, hopes, and aspirations are. Studies suggest that children who have the capacity to surmount adversity usually have at least one adult in their lives who believes in them and sees the best in them (Brooks & Goldstein, 2001). (See Figure 7.2 in Chapter 7 for a 165-item Neurodiversity Strengths Checklist to use in creating a positive mindset about a student with special needs.)

Example of poor niche construction: *Eldon has just been diagnosed as having ADHD and an emotional disorder. In the teacher's lounge, teachers trade stories about his temper tantrums and his failure to comply with school rules. He has been observed commenting to his peers, "I've just been transferred to the retarded class. I guess that means I'm a retard, too." Other students refer to him as a "loser," a "troublemaker," and a "bully."*

Example of positive niche construction: *Ronell has ADHD and an emotional disorder. He also has been recognized as having leadership capabilities in his gang affiliations, good visual-spatial skills (he enjoys working with his hands), and an interest in hip-hop music. Teachers and students have been instructed to look for Ronell's positive behaviors during the school day and share them with him. Ronell has been informed of his profile of multiple intelligences (high interpersonal, spatial, bodily-kinesthetic, and musical intelligences) and has been observed commenting to his peers, "I guess I'm good at a few things, after all."*

Positive Role Models

Children are powerfully influenced by the adults they see in their daily lives. Social learning theory tells us that behavior modeling by adults provides children with one of the major building blocks they

require for constructing complex behaviors in life (Bandura, 1986). Scientists suggest that this may be due to the existence of "mirror neurons"—brain cells that fire not only when we do something, but also when we observe others doing that same thing (Rizzolatti & Craighero, 2004).

Adult role models are especially important for kids with special needs. Students with learning disabilities ought to learn about the lives of people who also had learning disabilities and became successful in their chosen careers, as the novelist John Irving, the actor Whoopi Goldberg, the Nobel Prize–winning biochemist Carol Greider, and the brokerage firm CEO Charles Schwab. Students with ADHD may be heartened to learn about famous people with ADHD, including Olympic athlete Michael Phelps, actor Jim Carrey, film director Stephen Spielberg, and inventor Thomas Edison. Those with intellectual disabilities can take pride in identifying with individuals like them who have accomplished great things, including actor Chris Burke, musician Sujeet Desai, artist Jane Cameron, and college graduate Katie Apostolides. Of course, celebrities aren't the only role models. Neurodiverse adults who have become successful in their local communities should be invited to visit schools, share stories, and provide inspiration for *all* students, not just those with special needs.

Example of poor niche construction: *Susan is a sophomore in high school who has Down syndrome. She has been commenting to her peers and to her teachers that she is "just plain stupid" and that she'd like to drop out of school. One of her teachers calls her "my darling dummy," which elicits laughter from the other students.*

Example of positive niche construction: *Shelly is a freshman in high school who has Down syndrome. Her guidance counselor tells her about Katie Apostolides, a girl with Down syndrome who graduated with an associate's degree from a Pennsylvania college. Now she comments to her teachers, "Maybe I can graduate from high school and go to college like Katie."*

Assistive Technologies and Universal Design for Learning

The vast expansion of emerging technology over the past few decades has provided teachers with many innovative tools for differentiating instruction for students with special needs. These tools allow students to derive knowledge and engage in activities previously inaccessible to them. Assistive technologies cover a wide range of devices and methodologies, including crutches, wheelchairs, grab bars, text telephones, large-print and Braille reading materials, sign language, hearing aids, adaptive keyboards, and augmented and alternative communication devices.

By contrast, the concept of "universal design" was originally developed by urban planners and architects and refers to designs that improve access for people with disabilities while also benefitting the general public (Steinfeld & Maisel, 2012). One of the best illustrations of universal design is the curb cut on a city street. This simple modification not only helps the blind and those in wheelchairs to cross the street more easily, but also benefits joggers, teenagers on skateboards, and parents pushing strollers.

In education, Universal Design for Learning (UDL) refers to the process of removing barriers to learning for kids with disabilities in ways that also enhance everyone else's ability to learn. For example, interactive digital books that provide text, graphics, and speech enable students with learning disabilities to more easily access the printed word while also helping typically developing students become more knowledgeable and productive in their own reading and writing. Universal Design for Learning is based on findings in neuroscience suggesting that there are three primary brain networks (Rose & Meyer, 2002):

- Recognition networks in the posterior areas of the cerebral hemispheres (the "what" of learning),
- Strategic networks in the frontal areas of the cerebral hemispheres (the "how" of learning), and

- Affective networks in the limbic or subcortical areas of the brain (the "why" of learning).

According to the Center for Applied Special Technology (CAST), the UDL framework encourages educators to implement

1. strategies for presenting information and content to students (recognition networks),
2. strategies that allow students to express what they know (strategic networks), and
3. strategies for stimulating and motivating students' interest in learning (affective networks) (CAST Inc., 1999–2012).

The focus of UDL is not strictly on individual students with disabilities (as is the case with assistive technologies), but rather on designing an educational environment that can accommodate a wide range of learning differences. Essentially, assistive technology and UDL represent two approaches that exist along a continuum. As Rose, Hasselbring, Stahl, and Zabala (2005) note, "[a]t the ends of this continuum the two approaches are easily distinguishable. Toward the middle of the continuum, such easy distinctions are muddied, and there are greater points of interaction and commonality" (p. 508).

Example of poor niche construction (without assistive technology): *Sixteen-year-old Samantha has significant intellectual disabilities and gets frustrated when she can't express her needs for food, water, toileting, and other basic necessities. She can easily spiral into tantrums or meltdowns, which often result in some of her favorite activities, such as finger painting and playing with dolls, being taken away from her as part of a behavior modification program. Lately, she has become withdrawn and morose, and an appointment with a psychiatrist has been scheduled.*

Example of positive niche construction (with assistive technology): *Twelve-year-old Irvin has autism and often has difficulty communicating with others. His teacher has purchased the iPad app Proloquo2Go, which Irvin uses to make his needs known. For example, if he's hungry, he simply touches the appropriate button on the screen and a synthesized*

voice says, "I'm hungry." Irvin has discovered that he can now more easily express his ideas and feelings and has become more communicative.

Example of poor niche construction (without UDL): *Ten-year-old Jason has learning disabilities and struggles with writing. He has begun to misbehave during writing assignments. He is increasingly spending writing period in the time-out area and often has to stay in for recess to make up work.*

Example of positive niche construction (with UDL): *Eight-year-old Nathan has learning disabilities and struggles with reading and writing assignments. His teacher has started using speech-to-text software with him, which allows him to complete his writing assignments by speaking into a computer. His interest in writing has increased dramatically, and many of his typically developing peers have started using the software themselves to improve their fluency and increase their writing productivity.*

Enhanced Human Resources

"Enhanced human resources" refers to the building up of a rich network of individuals who support the growth and development of a neurodiverse student. Such a network might include many of the following individuals:

- Regular and special education teacher
- Psychologist or counselor
- Social worker
- Speech and language therapist
- Personal tutor or academic coach
- Physical, occupational, music, or drama therapist
- Teacher's aide
- Parents and relatives
- High school or college-aged volunteers
- Peers and younger or older students

Interventions to enhance a student's human resource network might involve

- Strengthening the student's most life-affirming relationships,
- Reinvigorating existing relationships that are faltering, and
- Fostering new relationships that will enhance the student's life.

Example of poor niche construction: *Nate is a 1st grader with ADHD. He has been having problems getting along with his regular classroom teacher, who wants him placed in a special day class. His peers have been giving him a hard time about this during recess. He has increasingly been involved in fights with classmates and seems to have no close friends. A psychologist described Nate as combative, uncooperative, and angry.*

Example of positive niche construction: *Jose is a 1st grader with ADHD who has been having problems with his regular classroom teacher. A series of meetings are held after school to help resolve much of the conflict between them, resulting in a better relationship. In addition, a 5th grade student has become a "buddy" to Jose and plays ball with him every day at recess. Jose has started to form tentative friendships with his peers.*

Strength-Based Learning Strategies

Students are placed in special education programs because, for one reason or another, conventional approaches to teaching and learning have failed to help them. These students require innovative approaches to learning that have not yet been tried with them and that build upon their particular strengths, interests, and abilities. So, for example, teaching reading fluency through song lyrics for a child with Down syndrome who loves singing and music may be an effective learning strategy for that particular student. Although many of the strategies in this book are research-based, it's important to remember that we need to use differentiated learning strategies that reflect the *unique* strengths of each student, not just strategies that appear on an

approved list of "evidence-based" interventions. The idiosyncrasies, nuances, and complexities of the teaching process all point to the fact that a teacher's own experiences, beliefs, and values may frequently be more decisive for a child's learning progress than research findings (see, for example, Biesta, 2007; Clegg, 2005).

Example of poor niche construction: *Sal is a 3rd grader with learning disabilities who struggles with his reading. He is taken out of regular reading class and spends an hour a day in a resource room working on a phonemic awareness program that he says is "boring." His regular classroom teacher is concerned that his time in the resource room is making him fall farther behind his classmates in the regular classroom.*

Example of positive niche construction: *Ivan is a 3rd grader with learning disabilities who struggles with reading. He has a vivid imagination, loves drawing, and prefers working with pictures rather than words. Both his regular classroom teacher and his special education teacher have been using highly illustrated books (including pop-up books), letting him draw pictures of vocabulary words, teaching him to visualize what he's read, and giving him time each day to work with a highly graphic software program that assists him with his phonemic awareness skills.*

Affirmative Career Aspirations

Children's hopes and dreams for the future often serve as stepping stones to a stronger sense of purpose and direction in life. For many neurodiverse students, however, dreams of the future may be obscured by a sense of futility, limited expectations, and learned helplessness. In such cases, it is important for teachers to nurture the students' aspirations. At the middle and high school levels, it may be especially important for teachers to suggest future careers that students might be well suited for given their unique constellation of abilities. So, for example, students with learning disabilities who possess high visual-spatial abilities might be encouraged to consider a future in art, graphic design, architecture, filmmaking, or engineering. Students with ADHD could be asked to think about careers that

involve novelty, movement, or change, such as firefighting, newspaper reporting, surveying, or fitness instruction. High-functioning students on the autistic spectrum may be encouraged to consider vocations that involve systems, such as mathematics, computer programming, science, mechanical repair, or accounting. A student with intellectual disabilities might be encouraged to aspire to postsecondary education or perhaps to a future as a childcare worker, a veterinary assistant, or a hospital attendant. In each of these cases, encouraging students to aspire to careers that suit their strengths can provide them with a sense of meaning and purpose in life.

Example of poor niche construction: *Ricardo is a 12th grade student with high-functioning autism. He excels at computer programming but doesn't believe anyone will want to hire him with his disability. He has no plans for what he'll do after graduating from high school.*

Example of positive niche construction: *Lucille is an 11th grade student with high-functioning autism. She excels at computer programming and is told about a software firm in Denmark that hires 75 percent of its workers from the autistic spectrum because of their gifts for finding "bugs" in software. This information excites Lucille, who starts to investigate postsecondary programs that train people to become computer programmers.*

Environmental Modifications

A key principle of the Individuals with Disabilities Education Improvement Act (2004) is that students in special education should be placed in the "least restrictive environment." This usually means that students need to be educated as much as possible alongside their nondisabled peers in a regular classroom. But the word *environment* has a range of other possible interpretations that may be equally important for meeting the needs of students in special education. For example, research suggests that children labeled ADHD perform particularly well in "green" (i.e., natural) environments (Kuo & Taylor, 2004). For such students, the outdoors may prove to be the "least

restrictive environment." Similarly, students on the autistic spectrum who have hypersensitivity to sounds may perform better in an environment where school bells are muffled and chairs are padded to avoid squeaking. Those with emotional or behavioral issues may benefit from having a space to go to in the school where they can "chill out" after a meltdown. Finding or creating environments where students' cognitive, emotional, social, or physical strengths have the best chance of being reinforced is what matters most here. This means viewing the whole school and even the surrounding community as a complex network of possible microhabitats for meeting the varied needs of students with special needs.

Example of poor niche construction: *Julie is a high school junior with an emotional disorder and learning disabilities. She struggles with coursework and is bored in both her regular and special education classrooms. Her teacher thinks she may also have ADHD because of her difficulty concentrating in class. Julie has been referred to the special education teacher for more testing.*

Example of positive niche construction: *Jason is a high school senior with an emotional disorder and learning disabilities. He struggles with coursework and is bored in class. He really enjoys working with his hands and especially loves building furniture in his spare time. His school counselor learns of this and arranges for Jason to spend his afternoons involved in an apprenticeship program in furnituremaking at a local community college.*

Common Core Standards Assessment for Students with Special Needs

The establishment of appropriate assessments for students with special needs based on Common Core Standards must represent a flexible process where the students' own abilities and challenges are taken into consideration. Guidelines issued by the authors of the Common Core State Standards Initiative indicate that for students with disabilities to achieve at high levels on these national standards,

appropriate accommodations need to be put into place. According to the authors, these accommodations should include: changes in materials or procedures, an Individualized Educational Program (IEP), specialized instructional support personnel, assistive technologies, and instructional supports for learning (including Universal Design for Learning). The authors indicate that UDL in particular encompasses a range of strategies "which foster student engagement by presenting information in multiple ways and allowing for diverse avenues of action and expression" (Common Core State Standards Initiative, 2011). Thus, the Common Core Standards Initiative aligns directly with four components of positive niche construction described in this book: assistive technologies and Universal Design for Learning, enhanced human resources, strength-based learning strategies, and environmental modifications. In addition, the other three components of positive niche construction—strengths awareness, positive role models, and affirmative career aspirations—can be characterized as additional supports for students with special needs in meeting the requirements of the Common Core Standards.

The Center for Applied Special Technology (CAST) has observed that some Common Core Standards may present substantial obstacles to students with disabilities. Take the following example: *1.MD.3—Tell and write time in hours and half-hours using analog and digital clocks.* CAST suggests that this standard (and others like it) may prove to be an insurmountable barrier for students who have difficulty writing. They suggest that the word *express* be substituted for *write* so that students with disabilities have other ways of reaching the objective. Alternatively, they suggest that the word *write* be interpreted broadly to include other means of expression (Center for Applied Special Technology, 2012). This flexible approach to assessment based on strengths should be followed throughout the Common Core Standards. In this way, students with special needs can be challenged

to reach high levels of performance using their unique patterns of learning and behaving.

Conclusion

The concept of neurodiversity suggests that we shift paradigms from one based on deficits and "remediation" (literally, the reconnecting of what has been damaged) to one based on the cultivation of strengths. Just as animals in the wild work methodically to build an environment that best suits them, educators should work diligently to construct a positive niche that fits the unique needs of each individual child with special needs. We will explore the use of positive niche construction for several disability categories in the following chapters.

For Further Study

1. **Examine the quality of the discourse among teachers at your school regarding students with special needs.** Do the statements that teachers make about students reflect more of a deficit orientation (e.g., "You know, he's really low in math and has terrible reading comprehension skills") or more of a strengths-orientation (e.g., "He's got this great attitude and yesterday drew the most amazing doodle on his math worksheet")? See if you can count, over the course of a day, the number of positive and negative statements that you hear about students with special needs at your school. What does this experience teach you about your or your teachers' implicit attitudes about these students?

(Continued on next page)

For Further Study (*Continued*)

2. **Read some of the literature in the emerging field of neurodiversity.** Possibilities include Thomas Armstrong's *The Power of Neurodiversity,* Sarah Hendrickx's *The Adolescent and Adult Neuro-diversity Handbook,* Susanne Antonetta's *A Mind Apart,* and *the Disability Studies Quarterly* special issue, "Autism and the Concept of Neurodiversity." Alternatively, read one or more books by neurologist and essayist Oliver Sacks. My personal favorites are *An Anthropologist on Mars* and *The Man Who Mistook His Wife for a Hat.* How does your reading help to shape your feelings and thoughts about the need to see students with special needs in a new and more positive way?

3. **Reflect on how Response to Intervention (RtI) and Positive Behavioral Interventions and Support (PBIS) align with the concepts of neurodiversity and positive niche construction as described in this chapter.** Write about or discuss with colleagues how these concepts might be integrated within an RtI or PBIS framework.

4. **Use the seven components of positive niche construction discussed in this chapter to evaluate the experiences of one or more students with disabilities at your school.** Would you characterize these students as being in positive or poor niches? If the students are in poor niches, describe the practical steps that need to be taken to construct more positive niches for them.

5. **Select one of the components of positive niche construction discussed in this chapter and find out more about it through reading, classroom observations, or action research.** Plan a project, paper, or presentation focusing on the potentially positive impact of this component on one or more of the students with special needs in your school.

6. **What are the implications of neurodiversity for how we structure special education in the United States?** How might special education be different if politicians, administrators, and teachers took neurodiversity more seriously? Write a position paper or conduct a discussion group that focuses on these questions.

References

Andrade, J. (2010). What does doodling do? *Applied Cognitive Psychology*, *24*(1), 100–106.

Andrews, L. W. (2005, Fall). Employees with intellectual disabilities find new job niches. *Managing Smart.*

Antonetta, S. (2007). *A mind apart: Travels in a neurodiverse world.* New York: Tarcher.

Appleyard, D. (1997, February 27). Education: The art of being dyslexic. *The Independent*. Retrieved from http://www.independent.co.uk/news/education/education-news/education-the-art-of-being-dyslexic-1280776.html

Armstrong T. (1988). Describing strengths in children labeled "learning disabled" using Howard Gardner's theory of multiple intelligences as an organizing framework. *Dissertation Abstracts International*, *48*(8A), 2038–2039.

Armstrong, T. (1996, May/June). Labels can last a lifetime. *Learning*, *24*(6), 41–42.

Armstrong, T. (1997). *The myth of the A.D.D. child: 50 ways to improve your child's behavior and attention without drugs, labels, or coercion*. New York: Plume.

Armstrong, T. (1999). *7 kinds of smart: Identifying and developing your multiple intelligences*. New York: Plume.

Armstrong, T. (2000). *In their own way: Discovering and encouraging your child's multiple intelligences*. New York: Tarcher/Penguin.

Armstrong, T. (2001, November). IKSWAL: Interesting kids saddled with alienating labels. *Educational Leadership*. *59*(3), 38–41.

Armstrong, T. (2009). *Multiple intelligences in the classroom* (3rd ed.). Alexandria, VA: ASCD.

Armstrong, T. (2011). *The power of neurodiversity: Unleashing the advantages of your differently wired brain.* Cambridge, MA: DeCapo/Perseus.

Austin, R., Wareham, J., & Busquets, X. (2008). *Specialisterne: Sense & details.* Cambridge, MA: Harvard Business Publishing.

Autism and the concept of neurodiversity [special issue]. (2010). *Disability Studies Quarterly, 30*(1). Retrieved from http://dsq-sds.org/issue/view/43

Baker, D. L. (2010). *The politics of neurodiversity: Why public policy matters*. Boulder, CO: Lynne Rienner Publishers.

Bandura, A. (1986). *Social foundations of thought and action: A social-cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Baron-Cohen, S. (1998). Superiority on the embedded figures task in autism and in normal males: Evidence of an "innate talent"? *Behavioral and Brain Sciences*, *21,* 408–409.

Baron-Cohen, S. (2002). Is Asperger's syndrome necessarily viewed as a disorder? *Focus on Autism and Other Developmental Disabilities, 17*(3), 186–191.

Baron-Cohen, S. (2003). *The essential difference: The truth about the male and female brain*. New York: Basic Books.

Bennett, D. E., Zentall, S .S., French B. F., & Giorgetti-Borucki, K. (2006, February). The effects of computer-administered choice on students with and without characteristics of attention deficit/hyperactivity disorder. *Behavioral Disorders*, *31*(2), 189–203.

Benson, P. L. (1997). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents*. New York: Jossey-Bass.

Biesta, G. (2007). Why "what works" won't work: Evidence-based practice and the democratic deficit in educational research. *Educational Theory, 57*(1), 1–22.

Blood, E., Johnson, J. W., Ridenour, L., Simmons, K., & Crouch, S. (2011, August). Using an iPod touch to teach social and self-management skills to an elementary student with emotional/behavioral disorders. *Education and Treatment of Children*, *34*(3), 299–321.

Blume, H. (1998, September 30). Neurodiversity. *Atlantic.* Retrieved from http://www.theatlantic.com/magazine/archive/1998/09/neurodiversity/5909/

Bohmann, R. R. (2003). *Class meetings as a tool for classroom management and character development: An annotated bibliography.* (ERIC Document Reproduction Service No. ED 478 005)

Borthwick, C. (1996). Racism, I.Q., and Down syndrome. *Disability & Society*, *11*(3), 403–410.

Bowman-Perrott, L. (2009, May). Classwide peer tutoring: An effective strategy for students with emotional and behavioral disorders. *Intervention in School & Clinic*, *44*(5), 259–267.

Branson, R. (1998). *Losing my virginity: How I've survived, had fun, and made a fortune doing business my way.* New York: Times Business.

Broer, S. M., Doyle, M. B., & Giangreco, M. F. (2005, Summer). Perspectives of students with intellectual disabilities about their experiences with paraprofessional support. *Exceptional Children, 71*(4), 415–430.

Brooks, D. (2007, September 14). The waning of I.Q. *New York Times*. Retrieved from http://www.nytimes.com/2007/09/14/opinion/14brooks.html?_r=3

Brooks, R., & Goldstein, S. (2001). *Raising resilient children*. New York: Contemporary Books.

Burke, C., & McDaniel, J. B. (1991). *A special kind of hero*. New York: Doubleday.

Buzan, T. (1996). *The mind map book: How to use radiant thinking to maximize your brain's untapped potential*. New York: Plume.

Byrne, D. L. (2008). *The effects of participative goal setting on Aggression Replacement Training for middle school students with emotional and behavioral disorders*. Ann Arbor, MI: ProQuest.

Calavita, K. (2010). *Invitation to law & society: An introduction to the study of real law*. Chicago: University of Chicago Press.

Capacchione, L. (2008). *The creative journal for teens: Making friends with yourself.* Pompton Plains, NJ: Career Press.

Carey, B. (2006, February 14). West Wing blues: It's lonely at the top. *New York Times*. Retrieved from http://www.nytimes.com/2006/02/14/science/14find.html

Carter, E. W., Lane, K. L., Pierson, M. R., & Glaeser, B. (2006, Spring). Self-determination skills and opportunities of transition-age youth with emotional disturbance and learning disabilities. *Exceptional Children*, *72*(3), 333–346.

Cartwright, S. (1851). Diseases and peculiarities of the Negro race. *De Bow's Review*. Retrieved from http://www.pbs.org/wgbh/aia/part4/4h3106t.html

CAST Inc. (1999–2012). What is universal design for learning? Retrieved from http://www.cast.org/udl/index.html.

Center for Applied Special Technology. (2012). *UDL and Common Core FAQs.* Retrieved from http://www.udlcenter.org/advocacy/faq_guides/common_core

Centers for Disease Control and Prevention. (2010, November 12). Increased prevalence of parent-reported attention deficit/hyperactivity disorder children—United States, 2003 and 2007. *Morbidity and Mortality Weekly Report, 59*(44), 1439–1443.

Centers for Disease Control and Prevention. (2012, March 20). Prevalence of autism spectrum disorders—autism and developmental disabilities monitoring network, 14 sites, United States, 2008. *Morbidity and Mortality Weekly Report, 61*(SS03), 1–19.

Cherniss, C. (2006). *School change and the MicroSociety program*. Thousand Oaks, CA: Corwin Press.

Children's Hospital Boston. (2005–2011). *Fragile X syndrome program at Children's Hospital Boston.* Retrieved from http://www.childrenshospital.org/clinicalservices/Site2242/mainpageS2242P0.html

Clark, R. W. (2001). *Einstein: The life and times*. New York: Avon.

Clegg, S. (2005, July). Evidence-based practice in educational research: A critical realist critique of systematic review. *British Journal of Sociology of Education, 26*(3), 415–428.

Clement, R. (1994). *Counting on Frank*. Boston: Houghton Mifflin School.

Cohen, H. C., & Bailer, B. (1999, August 1). Lazy, crazy, or stupid. *Fire Chief*. Retrieved from http://firechief.com/mag/firefighting_lazy_crazy_stupid

Colangelo, N., Assouline, S. G., Kerr, B., Huesman, R., & Johnson, D. (1993). Mechanical inventiveness: A three phase study. In G. Bock & K. Ackrill (Eds.), *The origins and development of high ability* (pp. 160–174). New York: Wiley.

Common Core State Standards Initiative. (2011). *Application to students with disabilities.* Retrieved from http://www.corestandards.org/assets/application-to-students-with-disabilities.pdf

Cooperrider, D. L. (2001) Why appreciative inquiry? In C. Royal & S. A. Hammond (Eds.), *Lessons from the field: Applying appreciative inquiry* Bend, OR: Thin Book Publishing.

Cornwell, J. (2007, July 1). Master of creation? Retrieved from http://www.martinfrost.ws/htmlfiles/july2007/master_creation.html.

Cramond, B. (1994). Attention-deficit hyperactivity disorder and creativity: What is the connection? *Journal of Creative Behavior, 38*(3), 193–210.

Cramond, B. (1995). *The coincidence of attention deficit hyperactivity disorder and creativity*. Storrs: The National Research Center on the Gifted and Talented, University of Connecticut.

Cumming, T. M. (2010, March). Using technology to create motivating social skills lessons. *Intervention in School and Clinic, 45*(4), 242–250.

112th Cong. (2011). The current state of employment of persons with intellectual and developmental disabilities, (Testimony of Sharon Lewis). Retrieved from http://www.hhs.gov/asl/testify/2011/03/t20110302a.html

Danforth, S., & Morris, P. (2006, March/May).Orthodoxy, heresy, and the inclusion of American students considered to have emotional/behavioural disorders. *International Journal of Inclusive Education, 10*(2/3), 135–148.

Dautenhahn, K., Nehaniv, C. L., Walters, M. L., Robins, B., Kose-Bagci, H., Mirza, N. A., & Blow, M. (2009). *KASPAR: A minimally expressive humanoid robot for human-robot interaction.* Hartfield, United Kingdom: University of Hertfordshire. Retrieved from http://oxfordbrookes.academia.edu/MikeBlow/Papers/236930/KASPAR_a_Minimally_Expressive_Humanoid_Robot_for_Human_robot_Interaction_Research

Davison, P. (2011, July 1). Study: Video games can help young people with learning difficulties. Retrieved from Chris Jones Gaming at http://www.chrisjonesgaming.net/study-video-games-can-help-young-people-with-learning-difficulties/

Dawson, M., Soulières, I., Gernsbacher, M. A., & Mottron, L. (2007, August). The level and nature of autistic intelligence. *Psychological Science, 8*(8), 657–662.

Double-tongued dictionary. (2004). Neurodiversity. Retrieved from http://www.doubletongued.org/index.php/dictionary/neurodiversity/

Down, J. L. (1866). Observations on an ethnic classification of idiots. *London Hospital Reports, 3,* 259–262. Retrieved from http://www.neonatology.org/classics/down.html

Dunn, R. & Dunn, K. (1992). *Teaching elementary students through their individual learning style*. Boston: Allyn & Bacon.

DuPaul, G. J., Erven, R. A., Hook, C. L., & McGoey K .E. (1998). Peer tutoring for children with attention deficit hyperactivity disorder: Effects on classroom behavior and academic performance. *Journal of Applied Behavioral Analysis, 31*(4), 579–592.

Dwight, V. (2010, February). All eyes on iPad. Retrieved from Great Schools at http://www.greatschools.org/special-education/other-disorders/2073-iPad-essay.gs

Dykens, E. M. (2006). Toward a positive psychology of mental retardation. *American Journal of Orthopsychiatry, 76*(2), 185–193.

Edelman, G. (1987). *Neural Darwinism: The theory of neuronal group selection*. New York: Basic Books.

Edelman, G. (1998, Spring). Building a picture of the brain. *Daedalus, 127*(2), 37–69.

Fisher, S. (2008, April 5). Appreciative inquiry and strengths in the special education process. *Positive Psychology News Daily.* Retrieved from http://positivepsychologynews.com/news/sherri-fisher/20080405702

Fitzpatrick, M., & Knowlton E. (2009, Summer). Bringing evidence-based self-directed intervention practices to the trenches for students with emotional and behavioral disorders. *Preventing School Failure, 53*(4), 253–266.

Forster, E. S. (1927). *The works of Aristotle, Vol. VII: Problemata XXX*. Oxford: Clarendon Press. Retrieved from http://archive.org/stream/worksofaristotle07arisuoft/worksofaristotle07arisuoft_djvu.txt

Foxx, R. M. (2008, October). Applied behavior analysis treatment of autism: The state of the art. *Child and Adolescent Psychiatric Clinics of North America, 17*(4), 821–834.

Frith, U. (Ed. and Trans.). (1991). *Autism and Asperger syndrome.* Cambridge: Cambridge University Press.

Gallup Youth Development Specialists. (2007). *StrengthsExplorer for Ages 10 to 14* (2nd ed.). Washington, DC: Gallup Press.

Gardner, H. (1993). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Geschwind, N. (1982). Why Orton was right. *Annals of Dyslexia, 32*(1), 13–30.

Gevensleben, H., Holl, B., Albrecht, B., Vogel, C., Schlamp, D., Kratz, O., Studer, P., Rothenberger, A., Moll, G. H., & Heinrich, H. (2009, June). Is neurofeedback an efficacious treatment for ADHD? A randomized controlled clinical trial. *Journal of Child Psychology and Psychiatry, 50*(7), 780–789.

Gillham, J. E., with Reivich, K. J., Freres, D. R., Lascher, M., Litzinger, S., Shatté, A., & Seligman, M. E. P. (2006, Fall). School-based prevention of depression and anxiety symptoms in early adolescence: A pilot of a parent intervention component. *School Psychology Quarterly, 21*(3), 323–348.

Goldbeck, L., & Schmid, K. (2003, September). Effectiveness of autogenic relaxation training on children and adolescents with behavioral and emotional problems. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(9), 1046–1054.

Gould, S. J. (1977). *Ontogeny and phylogeny*. Cambridge, MA: Harvard University Press.

Grandin, T. (1996). *Thinking in pictures: And other reports from my life with autism*. New York: Vintage.

Grandin, T. (2004). *Developing talents: Careers for individuals with Asperger syndrome and high-functioning autism*. Overland Park, KS: Autism Asperger Publishing Company.

Grandin, T. (2005). *Animals in translation: Using the mysteries of autism to decode animal behavior*. New York: Harcourt.

Greenspan, S., & Wieder, S. (2009). *Engaging autism: Using the Floortime approach to help children relate, communicate, and think*. Cambridge, MA: DaCapo/Perseus.

Guernsey, L., & Harmon, S. (2012). America's most amazing schools. *Ladies Home Journal*. Retrieved from http://www.lhj.com/relationships/family/school/most-amazing-schools/?page=2.

Gulchak, D. J. (2008). Using a mobile handheld computer to teach a student with an emotional and behavioral disorder to self-monitor attention. *Education and Treatment of Children, 31*(4), 567–581.

Hartmann, T. (1997). *Attention deficit disorder: A different perception*. Nevada City, CA: Underwood Books.

Heathfield, L. T., & Clark, E. (2004). Shifting from categories to services: Comprehensive school-based mental health for children with emotional disturbance and social maladjustment. *Psychology in the Schools, 41*(8), 911–920.

Henderson, W. (2003, Spring). High expectations and developmental disabilities. *Developmental Disabilities Leadership Forum, 3*(1).

Henderson, B. (2006). Champions of inclusion: Making the extraordinary ordinary. *International Journal of Whole Schooling, 3*(1), 7–12.

Henderson, B. (2011). *The blind advantage: How going blind made me a stronger principal and how including children with disabilities made our school better for everyone*. Cambridge, MA: Harvard Education Press.

Hendrickx, S. (2010). *The adolescent and adult neuro-diversity handbook: Asperger's syndrome, ADHD, dyslexia, dyspraxia, and related conditions*. London: Jessica Kingsley Publishers.

Hewitt, M. B. (2005). Meeting the challenge of inclusion for students with emotional disabilities. Retrieved from Spark Action at http://sparkaction.org/node/29849

Hipsky, S. (2007, Summer). Drama discovery: Setting the stage for students with emotional/behavioral needs to learn about Self. *Essays in Education, 21,* 163–182.

Howell, W., West, M., & Peterson, P. E. (2008, fall). The 2008 Education Next PEPG survey of public opinion. *Education Next, 8*(4). Retrieved from http://educationnext.org/the-2008-education-nextpepg-survey-of-public-opinion/

Hutchings, B. L., & Olsen, R. V. (2008). *A school for everyone: School design to support the inclusion of students with disabilities*. Newark: Center for Architecture and Building Science Research, New Jersey Institute of Technology.

Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400 *et seq.*

Jamison, K. R. (1996). *Touched with fire: Manic-depressive illness and the artistic temperament.* New York: Free Press.

Jensen, P. S., Mrazek, D., Knapp, P. K., Steinberg, L., Pfeffer, C., Schowalter, J., & Shapiro, T. (1997, December). Evolution and revolution in child psychiatry: ADHD as a disorder of adaptation. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(12), 1672–1679.

Jolivette, K., Stichter, J. P., Nelson, C. M., Scott, T. M.,& Liaupsin, C. J. (2000, August). Improving post-school outcomes for students with emotional and behavior disorders. Retrieved from Council for Exceptional Children at http://www.cec.sped.org/AM/Template.cfm?Section=Search&template=/CM/HTMLDisplay.cfm&ContentID=1856

Kalis, T. M., Vannest, K. J., & Parker, R. (2007, Spring). Praise counts: Using self-monitoring to increase effective teaching practices. *Preventing School Failure, 51*(3), 20–27.

Karolyi, C. V., Winner, E., Gray, W., & Sherman, G. (2003, June). Dyslexia linked to talent: Global visual-spatial ability. *Brain and Language, 85*(3), 427–431.

Kauffman, J. M., Lloyd, J. W., Baker, J., & Riedel, T. M. (1995). Inclusion of all students with emotional or behavioral disorders? Let's think again. *Phi Delta Kappan, 76*(7), 542–546.

Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the national comorbidity survey replication (NCS-R). *Archives of General Psychiatry, 62*(6), 617–627.

Kingsley, J., & Levitz, M. (1994). *Count us in: Growing up with Down syndrome*. New York: Harcourt.

Kohn, A. (1999). *Punished by rewards: The trouble with gold stars, incentive plans,* A*s, praise, and other bribes*. Boston: Mariner Books.

Kozik, P. L. (2008, June). *Examining the effects of appreciative inquiry on IEP meetings and transition planning* (doctoral dissertation). Retrieved from http://appreciativeinquiry.case.edu/uploads/PL%20Kozik%20Dissertation%208-08.pdf

Kramer, P. D. (2005, April 17). There's nothing deep about depression. *New York Times Magazine*. Retrieved from http://www.nytimes.com/20/04/17/magazine/17DEPRESSION.html

Krane, B. (2010, July 14). CHIP research: Robots may help children with autism. *CHIP Today.* Retrieved from http://www.chip.uconn.edu/2010/07/chip-researchers-robots-may-help-children-with-autism/

Kuo, F. E., & Taylor, A. F. (2004, September). A potential natural treatment for attention deficit/hyperactivity disorder. *American Journal of Public Health, 94*(9), 1580–1586.

Law, S., & Scott, S. (1995, June). Tips for practitioners: Pet care: A vehicle for learning. *Focus on Autistic Behavior, 10*(2), 17–18.

Lenhoff, H., Perales, O., & Hickok, G. (2001). Absolute pitch in Williams syndrome. *Musical Perception, 18*(3), 491–503.

Lenhoff, H. M., Wang, P. P., Greenberg, F., & Bellugi, U. (1997, December). Williams syndrome and the brain. *Scientific American, 277*(6), 68–73.

Levitin, D. J., Cole, K., Chiles, M., Lai, Z., Lincoln, A., & Bellugi, U. (2004). Characterizing the musical phenotype in individuals with Williams syndrome. *Neuropsychology, Development, and Cognition, Section C, Child Neuropsychology, 10*(4), 223–247.

Lewin, K. (1997). *Resolving social conflicts and field theory in social science*. Washington, DC: American Psychological Association.

Lewis, T. J., Jones, S. E. L., Horner, R. H., & Sugai, G. (2010). School-wide positive behavior support with emotional/behavioral disorders: Implications for prevention, identification, and intervention. *Exceptionality, 18,* 82–93.

Lewontin, R. C. (2010, May 27). Not so natural selection. *New York Review of Books, 57*(9). Retrieved from http://www.nybooks.com/articles/archives/2010/may/27/not-so-natural-selection/

Life Skills. (2009, October 15). *Benefits of employing people with disabilities.* Retrieved from http://www.disabled-world.com/disability/employment/usa/benefits-employing-disabilities.php

Lipsky, D. K., & Gartner, A. (1997). *Inclusion and school reform: Transforming America's classrooms*. Baltimore: Brookes.

Lopata, C., Nida, R. E., & Marable, M. A. (2006, March/April). Progressive muscle relaxation: Preventing aggression in students with EBD. *Teaching Exceptional Children, 8*(4), 20–25.

Ludwig, A. (1995). *The price of greatness: Resolving the creativity and madness controversy*. New York: Guilford Press.

Malbin, D. (2002). *Fetal alcohol spectrum disorders: Trying differently rather than harder*. Portland, OR: FASCETS.

Mallet, K. (2011, November 14). *Skilled readers rely on their brains' "visual dictionary" to recognize words* [Press release]. Georgetown University Medical Center. Retrieved from http://explore.georgetown.edu/news/?ID=60788&PageTemplateID=295

McDuffie, K. A., Landrum, T. J., & Gelman, J. A. (2008, Winter). Co-teaching and students with emotional and behavioral disorders. *Beyond Behavior, 17*(2), 11–16.

Michalko, M. (2006). *Thinkertoys: A handbook of creative thinking techniques* (2nd ed.). Berkeley, CA: Ten Speed Press.

Montagu, A. (1988). *Growing young* (2nd ed.). Westport, CT: Bergin & Garvey.

Morris, B. (2002, May 13). Overcoming dyslexia. *Fortune*. Retrieved from http://money.cnn.com/magazines/fortune/fortune_archive/2002/05/13/322876/index.htm

Moses, S. (1990, February). Hypotheses on ADHD debated at conference. *APA Monitor, 23*(2), 34.

Mottron, L. (2011, November 2). The power of autism. *Nature, 479,* 33–35.

Mottron, L., Dawson, M., Soulières, I., Hubert, B., & Burack, J. (2006, January). Enhanced perceptual functioning in autism: An update and eight principles of autistic perception. *Journal of Autism and Developmental Disorders, 36*(1), 27–43.

Mundi, P., Sigman, M., Kasari, C., & Yirmiya, N. (1988, February). Nonverbal communication skills in Down syndrome children. *Child Development, 59*(1), 235–249.

Myers, I. B. (1995). *Gifts differing: Understanding personality type*. Boston: Nicholas Brealey Publishing.

National Disability Rights Network. (2010, January). *Segregated and exploited: The failure of the disability service system to provide quality work.* Retrieved from http://www.hdi.uky.edu/setp/Materials/Segregated-and-Exploited_v18.pdf

Nauert, R. (2010, January 11). Biofeedback helps kids with ADHD. Retrieved from PsychCentral at http://psychcentral.com/news/2010/01/11/biofeedback-helps-kids-with-adhd/10669.html

Nelsen, J. (1999). *Positive time-out: And over 50 ways to avoid power struggles in the home and the classroom*. Roseville, CA: Prima Publishing.

Niesyn, M. E. (2009). Strategies for success: Evidence-based instructional practices for students with emotional and behavioral disorders. *Preventing School Failure, 53*(4), 227–233.

Norwich, B., & Kelly, N. (2004, February). Pupils' views on inclusion: Moderate learning difficulties and bullying in mainstream and special schools. *British Educational Research Journal, 30*(1), 43–65.

Odling-Smee, F. J., Laland, K. N., & Feldman, M. W. (2003). *Niche construction: The neglected process in evolution*. Princeton, NJ: Princeton University Press.

Osgood, R. L. (2007). *The history of special education: A struggle for equality in American public schools*. Santa Barbara, CA: Praeger.

Overy, K. (2003, November). Dyslexia and music. *Annals of the New York Academy of Sciences, 999,* 497–505.

Pardun, C. J. (2005, February). Media's portrayal of people with intellectual disabilities. Retrieved from Special Olympics at http://www.specialolympics.org/uploadedFiles/LandingPage/WhatWeDo/Research_Studies_Desciption_Pages/Policy_paper_media_portrayal.pdf

Paugh, P., & Dudley-Marling, C. (2011, September). Speaking deficit into (or out of) existence: How language constrains classroom teachers' knowledge about instructing diverse learners. *International Journal of Inclusive Education, 15*(8), 819–833.

Poe, E. A. (1850/2004). *Eleonora*. Charleston, SC: BookSurge Classics.

Pollock, D. (2009). *Neurodiversity in higher education: Positive responses to specific learning differences*. New York: Wiley.

Poplin, M. (1984, Spring). Summary rationalizations, apologies, and farewell: What we don't know about the learning disabled. *Learning Disability Quarterly, 7*(2), 130–134.

Project SEARCH (2011–2012). High school transition program. Retrieved from http://www.projectsearch.us/OurPROGRAM/HighSchoolTransition.aspx

Rahman, S. A., & Rahman, A. (2010). Efficacy of virtual reality-based therapy on balance in children with Down syndrome. *World Applied Sciences Journal, 10*(3), 254–261.

Reddy, V., Williams, E., & Vaughan, A. (2001). Shared laughter: The humour of pre-school children with Down syndrome. *Down Syndrome Research and Practice, 7*(3), 125–128.

Reinhart, M. (2003). *Young naturalist's handbook: Insect-lo-pedia*. New York: Hyperion.

Rizzolatti, G., & Craighero, L. (2004). The mirror-neuron system. *Annual Review of Neuroscience, 27,* 169–192.

Robelen, E. (2012, March 9). Teacher survey highlights cuts to the arts, foreign languages. *Education Week.* Retrieved from http://blogs.edweek.org/edweek/curriculum/2012/03/a_new_teacher_survey_offers.html

Rosal, M. L. (1993). Comparative group art therapy research to evaluate changes in locus of control in behavior disordered children. *The Arts in Psychotherapy, 20*(3), 231–241.

Rose, D., & Meyer, A. (2002). *Teaching every student in the digital age: Universal Design for Learning*. Alexandria, VA: ASCD.

Rose, D. H., Hasselbring, T. S., Stahl, S., & Zabala, J. (2005). Assistive technology and Universal Design for Learning: Two sides of the same coin. In D. Edyburn, K. Higgins, & R. Boone (Eds.), *Handbook of special education technology research and practice* (pp. 507–518). Whitefish Bay, WI: Knowledge by Design.

Rosenthal, R., & Jacobson, L. (2003). *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development*. Williston, VT: Crown House.

Rosenzweig, M., Bennett, E., & Diamond, M. (1972, February). Brain changes in response to experience. *Scientific American, 226*(2), 22–29.

Rudy, L. J. (2009, September 3). Autistic traits: A plus for many careers. Retrieved from About.com at http://autism.about.com/od/transitioncollegejobs/p/autismskills.htm

Sacks, O. (1996). *An anthropologist on Mars: Seven paradoxical tales*. New York: Vintage.

Sacks, O. (1998). *The man who mistook his wife for a hat and other clinical tales*. New York: Touchstone.

Sacks, O. (2008). *Musicophilia: Tales of music and the brain*. New York: Vintage.

Salmon, H. (2006, January). Educating students with emotional or behavioral disorders. *Law and Disorder*, 1, 9–53.

Schilling, D. L., Washington, K., Billingsley, F. F., & Deitz, J. (2003, September/October). Classroom seating for children with attention deficit hyperactivity disorder: Therapy balls versus chairs. *American Journal of Occupational Therapy, 57*(5), 534–541.

Sforza, T., Lenhoff, H., & Lenhoff, S. (2006). *The strangest song: One father's quest to help his daughter find her voice.* Amherst, NY: Prometheus Books.

Shah, A., & Frith, S. (1983). An islet of ability in autistic children: A research note. *Journal of Child Psychology and Psychiatry, 24*(4), 613–620.

Shah, A., & Frith, U. (1993). Why do autistic individuals show superior performance on the block design task? *Journal of Child Psychology and Psychiatry, 34*(8), 1351–1364.

Shaw, P., Eckstrand, K., Sharp, W., Blumenthal, J., Lerch, J. P., Greenstein, D., Clasen, L., Evans, A., Giedd, J., & Rapoport, J. L. (2007, December 4). Attention-deficit/hyperactivity disorder is characterized by a delay in cortical maturation. *Proceedings of the National Academy of Sciences, 104*(49), 19649–19654.

Shaywitz, B. A., Fletcher, J. M., & Shaywitz, S. E. (1995, January 10). Defining and classifying learning disabilities and attention-deficit/hyperactivity disorder. *Journal of Child Neurology 10*(Suppl. 1), S50–S57.

Shaywitz, B. A., & Shaywitz, S. E. (2009). Brain imaging in studies of reading and dyslexia. *In Encyclopedia of Language and Literacy Development* (pp. 1–6). London, Ontario: Canadian Language and Literacy Research Network. Retrieved from http://www.literacyencyclopedia.ca/pdfs/topic/php?topld=281

Shaywitz, S. (n.d.) A conversation with Sally Shaywitz. Retrieved from Great Schools at http://www.greatschools.org/special-education/LD-ADHD/836-a-conversation-with-sally-shaywitz-m-d-author-of-overcoming-dyslexia.gs

Shaywitz, S. (2008, March/April). Slow readers, creative thinkers: Gift will spur dyslexia studies. *Medicine@Yale Newsletter, 4*(1). Retrieved from http://info.med.yale.edu/ysm/medicineatyale/v4i1_mar_april_2008/thinkers.html

Simeonova, D. I., Chang, K. D., Strong, C., & Ketter, T. A. (2005, November). Creativity in familial bipolar disorder. *Journal of Psychiatric Research*, *39*(6), 623–631.

Sinclair, J. (1993). Don't mourn for us. *Our Voice, 1*(3). Retrieved from http://www.autreat.com/dont_mourn.html

Singer, J. (1999). Why can't you be normal for once in your life? In M. Corker & S. French (Eds.), *Disability discourse*. Buckingham, United Kingdom: Open University Press.

Skotko, B. G., Levine, S. P., & Goldstein, R. (2011). Self-perceptions from people with Down syndrome. *American Journal of Medical Genetics, Part A, 155*(10), 2360–2369.

Slingerland, B. H. (1996). *A multi-sensory approach to language arts for specific language disability children* (rev. ed.). Cambridge, MA: Educators Publishing Service.

Smith, P., & O'Brien, J. (2007, October). Have we made any progress? Including students with intellectual disabilities in regular education classrooms. *Intellectual and Developmental Disabilities, 45*(5), 297–309.

Special Olympics. (2005). *Changing attitudes, changing the world: Changing lives through sport: A study of youth attitudes about intellectual disabilities.* Retrieved from http://www.specialolympics.org/uploadedFiles/LandingPage/WhatWeDo/Research_Studies_Desciption_Pages/Policy_paper_youth_attitudes.pdfn .

Spencer, V. G., & Balboni, G. (2003). Can students with mental retardation teach their peers? *Education and Training in Developmental Disabilities, 38*(1), 32–61.

Steinfeld, E., & Maisel, J. (2012). *Universal design: Creating inclusive environments.* Hoboken, NJ: Wiley.

Stuart, S. K. (2003, February). Choice or chance: Career development and girls with emotional or behavioral disorders. *Behavioral Disorders, 28*(2), 150–161.

Suter, J. C., & Bruns, E. J. (2009). Effectiveness of the wraparound process for children with emotional and behavioral disorders: A meta-analysis. *Clinical Child and Family Psychology Review, 12*(4), 336–351.

Sutherland, K. S., & Snyder, A. (2007, Summer). Effects of reciprocal peer tutoring and self-graphing on reading fluency and classroom behavior of middle school students with emotional or behavioral disorders. *Journal of Emotional and Behavioral Disorders, 15*(2), 103–118.

Temple, E., Deutsch, G. K., Poldrack, R. A., Miller, S. L., Tallal, P., Merzenich, M. M., & Gabrieli, J. D. E. (2003, March 4). Neural deficits in children with dyslexia ameliorated by behavioral remediation: Evidence from functional MRI. *Proceedings of the National Academy of Science, 100*(5), 2860–2865.

The Arc. (2011, June). *Still in the shadows with their future uncertain: A report on family and individual needs for disability supports (FINDS), 2011.* Washington, DC: Author.

Tomlinson, C. A. (2004). *How to differentiate instruction in mixed ability classrooms.* Alexandria, VA: ASCD.

Tomlinson, C. A., & Imbeau, M. B. (2010). *Leading and managing a differentiated classroom*. Alexandria, VA: ASCD.

Torrance, E. P. (1974). *The Torrance tests of creative thinking*. New York: Scholastic Testing Service.

Treffert, D. (2009, May). The savant syndrome: An extraordinary condition. A synopsis: past, present, and future. *Philosophical Transactions of the Royal Society, B, Biological Sciences*, *364*(1522), 1351–1357.

U.S. Department of Education, National Center for Education Statistics. (2011). *Digest of education statistics, 2010.* Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=64

Visu-Petra, L., Benga, O., Tincas, I., & Miclea, M. (2007, December). Visual-spatial processing in children and adolescents with Down's syndrome: A computerized assessment of memory skills. *Journal of Intellectual Disability Research, 51*(12), 942–952.

Wang, P. P. (1996). Neuropsychological profile of Down syndrome: Cognitive skills and brain morphology. *Mental Retardation and Developmental Disabilities Research Reviews, 2,* 102–108.

Warren, C. (2008, July 1). Coudl this be teh sercet to sussecc? *American Way*. Retrieved from http://www.americanwaymag.com/dyslexia-hunt-lowry-sally-shaywitz-julie-logan

Wehmeyer, M. L., & Field, S. L. (2007). *Self-determination: Instructional and assessment strategies*. Thousand Oaks, CA: Corwin Press.

Weinstein, R. S. (2004). *Reaching higher: The power of expectations in schooling*. Cambridge, MA: Harvard University Press.

West, T. G. (1991). *In the mind's eye: Visual thinkers, gifted people with learning difficulties, computer images, and the ironies of creativity*. New York: Prometheus Books.

White, H. A., & Shaw, P. (2011, April). Creative style and achievement in adults with attention deficit/hyperactivity disorder. *Journal of Personality and Individual Differences, 5*(5), 673–677.

Williams, G. J., Kitchener, G., Press, L. J., Scheiman, M. M., & Steele, G. T. (2004, November). The use of tinted lenses and colored overlays for the treatment of dyslexia and other related reading and learning disorders. *Optometry: Journal of the American Optometric Association, 75*(11), 720–722.

Winter-Messiers, M. A. (2007, May/June). From tarantulas to toilet brushes: Understanding the special interest areas of children and youth with Asperger syndrome. *Remedial and Special Education, 28*(3), 140–152.

Wuang, Y. P., Chiang, C. S., Su, C. Y., & Wang, C. C. (2011, January/February). Effectiveness of virtual reality using Wii gaming technology in children with Down syndrome. *Research in Developmental Disabilities, 32*(1), 312–321.

Zax, D. (2011, September 7). A dancing robot that could help the autistic. *Technology Review.* Retrieved from http://www.technologyreview.com/blog/helloworld/27139/?p1=blogs

Zentall, S. S., (2005). Theory and evidence-based strategies for children with attentional problems. *Psychology in the Schools, 42*(8), 821–8365.

Zhang, J., & Wheeler, J. J. (2011). A meta-analysis of peer-mediated interventions for young children with autism spectrum disorders. *Education and Training in Autism and Developmental Disabilities, 46*(1), 62–77.

About the Author

Thomas Armstrong has been an educator for the past 40 years. He worked for several years as a special education teacher in the United States and Canada, developed courses in human development for colleges and universities in the San Francisco Bay area, and served as an educational consultant for schools in New York State. For the past 26 years, he has been an author, keynote speaker, and workshop leader in 43 states and 19 countries.

Armstrong is the author of 15 books, including six with ASCD: *Multiple Intelligences in the Classroom*, 3rd edition, *ADD/ADHD Alternatives in the Classroom, Awakening Genius in the Classroom, The Multiple Intelligences of Reading and Writing, The Best Schools,* and *Neurodiversity in the Classroom.* His other books include *7 Kinds of Smart, In Their Own Way, The Myth of the A.D.D. Child, The Human Odyssey,* and *The Power of Neurodiversity.* His books have been translated into 26 languages, including Chinese, Hebrew, Russian, Spanish, and Portuguese. He has also written for *Family Circle, Ladies' Home Journal, Parenting* and many other periodicals and journals in the United States and abroad.

Armstrong's clients have included The Children's Television Workshop (the creators of *Sesame Street*), the Bureau of Indian Affairs, the European Council of International Schools, the Republic of Singapore, and several state departments of education. He lives in Sonoma County, California, in a pink Victorian with his wife and two Shih Tzu dogs. You can reach the author by mail at P.O. Box 548, Cloverdale, CA 95425; by phone at 707-894-4646 (land line) or 707-328-2659 (cell); by fax at 707-894-4474; or by e-mail at thomas@thomasarmstrong.com. His website and blog are at www.thomasarmstrong.com.