# The INCLUSION NOTEBOOK

Problem solving in the classroom and community

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#### Including Students with Autism (Part 2): What EVERY Educator Needs to Know

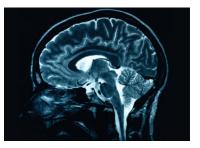
The Inclusion Notebook is produced twice a year and is a publication of the University of Connecticut A.J. Pappanikou Center for Excellence in Developmental Disabilities Education, Research, and Service. For questions, comments, or corrections regarding this publication, please contact Gabriela Freyre-Calish at (860) 679-1563.

This issue of The Inclusion Notebook, Part 2 of a 2-part series, continues to provide educators with essential information about students with autism spectrum differences (ASDs) from preschool through high school. For new readers, ASDs include classic autism, Asperger syndrome, pervasive developmental disorder-not otherwise specified (PDD-NOS), and several genetic conditions in which the student appears to have autism. Whereas Volume VI, Number 1 of TIN provided an overview of traditional service models used to educate students with ASDs, this issue (Part 2) and the previous one (Part 1 from Fall 2009) contain more cutting edge research-into-practice information. This 2-part series shatters myths about autism spectrum differences; provides readers with actual situations in which, by applying the MACS Model described previously, students with even the most severe autistic behaviors have been successfully included in general education classes without requiring substantially separate instruction; and addresses common questions educators across the country have been asking. Unlike previous editions of TIN, neither Part 1 nor Part 2 contains a pull-out section because these two editions are handy "keeper" references for all educators.

If you have not seen Volume VIII, No. 1 of *The Inclusion Note*book, please get a copy from our website at <u>http://</u> www.uconnucedd.org/resources\_publications.html.

## Abstracts of Literature Supporting the MACS Model

Under the federal law commonly referred to as No Child Left Behind, educators are required to use evidence-based practices in educating ALL children – including those with autism spectrum differences. There is a strong research base to the MACS model. For a description of the MACS model see Labels on the Autism Spectrum: A New View by Linda



Rammler in Vol. VIII No. 1 of TIN. Following are abstracts from literature reviews across a wide range of disciplines, including basic science fields, to support the point. Emphases have been added.

#### *M* = Movement Differences in Autism

Over 100 separate studies more or less confirm that the cerebellum, the part of the brain responsible for smooth and coordinated motor patterns or movement, is different in individuals with ASDs. Other studies implicate parts of the brain that are linked to movement (e.g., the basal ganglia, the interconnectivity between these and the motor cortex). Anne Donnellan and Martha Leary, in a seminal work published in 1995 called *Movement differences and diversity in autism/mental retardation: Appreciating and accommodating people with communication and behavioral challenges* (Pacific Beach,

CA: DRI Press) that is based on an extensive review of the literature, categorize these movement differences as follows:

- Starting to move
- Stopping a movement once it has begun
- Combining movements
- Changing or switching movements (e.g., to make transitions)
- Executing (which affects speed, rhythm, direction, and other aspects of) movements
- Continuing a movement sequence once it has begun

This breakout is useful in understanding why a person with autism may take longer to follow a direction, may have trouble turning off a behavior, may be inconsistent in performance from one hour or day or week to the next, etc.

**Sample article:** Nayate, A., Bradshaw, J.L., & Rinehart, N.J. (2005). Autism and Asperger's disorder: Are they movement disorders involving the cerebellum and/or basal ganglia? *Brain Research Bulletin, 67,* 327-334

**Abstract:** Autism and Asperger's disorder (AD) are childhood developmental disorders of unknown aetiology. Autism and AD share several behavioural features, and it is not clear whether they are distinct disorders or variants of the same disorder. <u>Recent studies indicate that disordered movement may be another feature of autism and AD, and that this may reflect</u> <u>dysfunction within the frontostriatal and/or cerebellar motor circuits</u>. While disordered movement in autism and AD has been examined in a variety of ways, it is relatively underresearched compared to the cognitive, affective, and behavioural disturbances seen in these disorders. This review examines the role of the frontostriatal and cerebellar motor systems in the behavioural features of autism and AD, with gait as a proxy, and discusses difficulties with their diagnosis and their possible pathogenesis.



#### A = Anxiety Differences in Autism

For a number of years, practitioners such as June Groden of the Groden Center in Rhode Island have recognized the role of anxiety in exacerbating "autistic behavior" and have documented success in using similar strategies to alleviate anxiety (e.g., cognitive behavior therapy, relaxation techniques) in people with ASDs that have been shown to work with neurotypical people.



**Sample article:** White, S.W., Oswald, D., Ollendick, T., & Scahill, L. (2009). Anxiety in children and adolescents with autism spectrum disorders. *Clinical Psychology Review, 29,* 216-229.

Abstract: Anxiety and poor stress management are common concerns in clinical samples of children with autism spectrum disorders (ASD). Anxiety may worsen during adolescence, as young people face an increasingly complex social milieu and often become more aware of their differences and interpersonal difficulties. This review summarizes the state of research on the prevalence, phenomenology, and treatment of anxiety in youth with autism and related conditions such as Asperger's Disorder. Using search words autism, asperger(s), or pervasive developmental disorder and anxiety or anxious to find reports published between 1990 and 2008, this review identified 40 papers. The results of the review suggest that anxiety, whether measured categorically or dimensionally, is indeed common in children and adolescents with autism spectrum disorders and may be a source of additional morbidity. The assessment of anxiety disorders in ASD should be conducted using multiple informants and modalities, as children with ASD often do not display age-typical symptoms of anxiety. To date, relatively few controlled intervention studies using well-characterized samples have been conducted despite preliminary evidence for efficacy of select pharmacological and psychosocial approaches. Recommendations for future applied research are presented and clinical implications are explored.

#### **C** = Communication Differences in Autism

Because differences in communication are one of the defining features of autism using traditional criteria (e.g., the *DSM-IVR*), there should be no dispute that people with ASDs of all ages have differences – at least expressively. Those differences include prosody, vicarious comprehension of idiomatic phrases, echolalia (immediate and delayed), and syntax. What is at issue is what these communication differences reflect – nature, as in a biological inability to communicate effectively or nurture, as in different developmental experiences (e.g., if your peers don't laugh at your "Amelia Bedelia" errors and correct you, how do you learn not to take idioms literally?).



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**Sample article:** Akhtar, N., & Gernsbacher, M.A. (2007). Joint attention and vocabulary development: A critical look. *Language and Linguistic Compass*, *1*(3), 195–207

**Abstract:** Joint attention – parents' and children's coordinated attention to each other and to a third object or event – is believed to play a causal and critical role in early word learning. However, joint attention, as conventionally defined and measured, relies only on overt indicators of attention, is studied predominantly in the visual modality, and varies by culture. Moreover, word learning can occur without joint attention in typical development, in autistic development, and in Williams syndrome, and joint attention can occur without commensurate word learning in Down syndrome. *Thus, the assumption that joint attention is a necessary and sufficient precursor to vocabulary learning is not universally supported.* 

Here is another interesting study that the authors interpreted entirely in terms of the prevailing preconceptions of what autism means. As you read the abstract, consider this: What if Wernicke's area was more activated in subjects with ASDs because they were drawing more conclusions and inferences, and had BETTER comprehension, than the control group? Could the differences in Broca's area account for speech difficulties? Could the delay be due not to core deficits in processing but to the interconnectivity between various brain areas as demonstrated in another body of research (see final abstract in this article)?



**Sample article:** Just, M.A., Cherkassky, V.L., Keller, T.A., & Minshew, N.J. (2004). Cortical activation and synchronization during sentence comprehension in high-functioning autism: evidence of underconnectivity. *Brain*, *127*(8), 1811-1821.

**Abstract:** The brain activation of a group of high-functioning autistic participants was measured using functional MRI during sentence comprehension and the results compared with those of a Verbal IQ-matched control group. The groups differed in the distribution of activation in two of the key language areas. <u>The autism group produced reliably more activation than the control group in Wernicke's (left laterosuperior temporal) area and reliably less activation than the control group in Broca's (left inferior frontal gyrus) area.</u> Furthermore, the functional connectivity, i.e. the degree of synchronization or correlation of the time series of the activation, between the various participating cortical areas was consistently lower for the autistic than the control participants. These findings suggest that the neural basis of disordered language in autism entails a lower degree of information integration and synchronization across the large-scale cortical network for language processing. The article presents a theoretical account of the findings, related to neurobiological foundations of underconnectivity in autism.

#### S = Sensory Differences in Autism

A substantial body of research, primarily in the field of occupational therapy, has supported the role of sensory differences in autism, how to identify these, and what to do about them. There are seven senses that are identified in the literature and it is often the "hidden senses" that most affect individuals with labels on the spectrum. These senses are:

- Visual sense and perception
- Auditory sense and perception
- Gustatatory sense and perception (taste)
- Olfactory sense and perception (smell)
- Tactile sense and perception (touch)
- Proprioception (knowing where your body is in space)
- Vestibular sense and perception (balance and knowing where your head is in space)

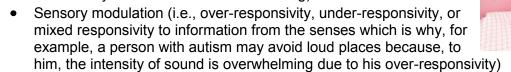




There is a substantial body of literature comparing brains of people with autism to those of so-called neurotypical people which shows structural and functional differences in the parts of the human brain (such as the substructures of the limbic system) that have to do with these seven senses. Functional differences include:

- Sensory processing (i.e., what the brain does with information it receives from the senses which is why, for example, a person with autism may need to slam his body against the wall to "know" it's still there)
- Sensory integration (i.e., how different senses work together which is why, for example, it may be difficult for someone with autism to maintain eye contact while she is listening)







Understanding the seven senses and how the brain can respond to information received through the senses is a critical component of understanding the behaviors of many individuals who acquire labels of ASDs. Sensory interventions are also one of the most beneficial "interventions" for individuals on the spectrum, making it more comfortable for them to negotiate the neurotypical world.





**Sample article:** Kientz, M.A., & Dunn, W. (1997). A comparison of the performance of children with and without autism on the Sensory Profile. *American Journal of Occupational Therapy*, *51*(7), 530-537.

**Abstract:** OBJECTIVE: The purpose of this study was to determine whether the Sensory Profile discriminates between children with and without autism and which items on the profile best discriminate between these groups. METHOD: Parents of 32 children with autism aged 3 to 13 years and of 64 children without autism aged 3 to 10 years completed the Sensory Profile. A descriptive analysis of the data set of children with autism identified the distribution of responses on each item. A multivariate analysis of covariance (MANCOVA) of each category of the Sensory Profile identified possible differences among subjects without autism, with mild or moderate autism, and with severe autism. Follow-up univariate analyses were conducted for any category that yielded a significant result on the MANCOVA. RESULTS: Eighty-four of 99 items (85%) on the Sensory Profile differentiated the sensory processing skills of subjects with autism from those without autism. There were no group differences between subjects with mild or moderate autism and subjects with severe autism. CONCLUSION: <u>The Sensory</u> <u>Profile can provide information about the sensory processing skills of children with autism to assist occupational therapists in assessing and planning intervention for these children.</u>

#### A Word About Interconnectivity Between Brain Systems in Autism

In addition to research on the movement, anxiety, communication, and sensory systems of the brain, there is a strong base of knowledge regarding how those systems interact with each other and with parts of the human brain that do not appear directly involved in autism spec-



trum differences. Here is a sample article making the point as well as possibly explaining why, for some individuals, development appears typical until a critical period of development during toddlerhood when changes in ALL human brains are hard-wired to occur.

**Sample article:** Courchesne, E., et al. (2001). Unusual brain growth patterns in early life in patients with autistic disorder. *Neurology*, *57*, 245-254.

Abstract: OBJECTIVE: To quantify developmental abnormalities in cerebral and cerebellar volume in autism. METHODS: The authors studied 60 autistic and 52 normal boys (age, 2 to 16 years) using MRI. Thirty autistic boys were diagnosed and scanned when 5 years or older. The other 30 were scanned when 2 through 4 years of age and then diagnosed with autism at least 2.5 years later, at an age when the diagnosis of autism is more reliable. RESULTS: Neonatal head circumferences from clinical records were available for 14 of 15 autistic 2- to 5year-olds and, on average, were normal  $(35.1 \pm 1.3 \text{ cm versus clinical norms: } 34.6 \pm 1.6 \text{ cm})$ , indicative of normal overall brain volume at birth; one measure was above the 95th percentile. By ages 2 to 4 years, 90% of autistic boys had a brain volume larger than normal average, and 37% met criteria for developmental macrencephaly. Autistic 2- to 3-year-olds had more cerebral (18%) and cerebellar (39%) white matter, and more cerebral cortical gray matter (12%) than normal, whereas older autistic children and adolescents did not have such enlarged gray and white matter volumes. In the cerebellum, autistic boys had less gray matter, smaller ratio of gray to white matter, and smaller vermis lobules VI-VII than normal controls. CONCLUSIONS: Abnormal regulation of brain growth in autism results in early overgrowth followed by abnormally slowed growth. Hyperplasia was present in cerebral gray matter and cerebral and cerebellar white matter in early life in patients with autism.

#### **In Summary**

This article contains just a small sample of articles, not typically available to educators, which support the MACS Model. Here is a final one to make the point.

**Sample article:** Bauman, M.L., & Kemper, T.L. (2005). Neuroanatomic observations of the brain in autism: A review and future directions. *International Journal of Developmental Neuroscience*, *23*, 183-187.

**Abstract:** Infantile autism is a behaviorally defined disorder associated with characteristic cognitive, language and behavioral features. Several postmortem studies have highlighted areas of anatomic abnormality in the autistic brain. Consistent findings have been observed in the limbic system, cerebellum and related inferior olive. In the limbic system, the hippocampus, amygdala and entorhinal cortex have shown small cell size and increased cell packing density at all ages, suggesting a pattern consistent with development curtailment. Findings in the cerebellum have included significantly reduced numbers of Purkinje cells, primarily in the posterior inferior regions of the hemispheres. A different pattern of change has been noted in the vertical limb of the diagonal band of broca, cerebellar nuclei and inferior olive with plentiful and abnormally enlarged neurons in the brains of young autistic subjects, and in adult autistic brains, small, pale neurons that are reduced in number. These findings combined with reported age-related changes in brain weight and volume, have raised the possibility that the neuropathology of autism may represent an on-going process.

#### Formal Assessment and Children with ASDs: If the Scores Don't Mean What We Think They Mean, Then What?

#### **Students with ASDs Often Do Not Test Well**

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Students with ASDs tend to do poorly on standardized tests because their complex neurological differences affect **performance abilities on the test itself** and therefore, are not necessarily indicative of what the individual knows or understands. While using standardized tests can be helpful in justifying an individual student's eligibility for special education, the commonly accepted principle of "flunk the test item: teach the skill" may not apply.

In fact, Morton Ann Gernsbacher, a noted cognitive psychologist with a passion for learning more about ASDs, found remarkable <u>increases</u> in a test of fluid intelligence (the Raven Test of Progressive Matrices) that, in people without autism, is highly correlated with scores on the commonly used Weschler scales of intelligence.

### "You cannot adequately test a student w/ASD in traditional ways"

- Implications for statistic that 70-90% of people with ASD have "some form of MR/ID"?
- Criteria of the Least Dangerous Assumption (Donnellan & Leary, 1995)

Dawson, Soulie`res, Gernsbacher, & Mottron, 2007	WISC/ WAIS	Raven
ASD	X <y< td=""><td>X+30- 70 pts</td></y<>	X+30- 70 pts
NT	Y	Y
		UCONN

#### **Ecological Assessment**

Therefore, one of the most useful ways to identify what an individual student needs to learn and how best to teach it can be done using ecological assessment. Here is information about how to conduct an ecological assessment (retrieved 9/30/09 from the Interactive Collaborative Autism Network [ICAN] project's website. NOTE: ICAN is a project supported by a U.S. Department of Education Grant, and the website is a collaborative effort among the University of Kansas, the State Department of Education (SDE) in Connecticut, and the SDE in Minnesota).



#### What is an Ecological Assessment?

The goal for children with ASD is to be able to participate to the fullest extent possible in natural environments with other children. To help ensure that the child is successful, educators must have an astute understanding of what is occurring in the environment and what skills the child needs to participate effectively. Often educators attempt to teach a child with ASD a series of social skills without actually observing how other children perform the skill. If you observe a group of children playing with trucks on the floor and watch how another child joins in, it is often differ-



ent than the way many instructors try to teach the skill to a child with ASD. Specifically, a child with ASD may be directed to go over and ask if he can play. In reality, this is not an effective means for entering a social group. Typically, the response to this question is "No" or his peers simply ignore the child. The teacher would be able to develop a better approach for the child by learning how other children enter that play activity in that specific environment. Typically in this situation a child enters by beginning to play next to the child in a way that is inviting. It is also important to know how they are playing with the trucks to ensure that the child can perform the necessary actions/skills. These skills can be identified through an ecological assessment.

Briefly, an ecological assessment is a format designed to delineate how the child without a disability performs an activity in a given environment. To complete an ecological assessment the assessor observes and records the activity as it occurs. Four critical components make up an ecological assessment:

- Identification of behaviors or skills being performed, referred to as an ecological inventory
- Identification of natural cues and correction procedures
- Identification of performance criteria
- Completion of the student repertoire inventory, which evaluates the ability of the individual with ASD to perform the skills identified in the ecological inventory

Once the ecological assessment is completed, it is used as the foundation for developing meaningful goals and designing an instructional plan.

Using ecological assessments to analyze social skills enables instructors to look at both the *skill being performed* and the *language/social skills* naturally integrated in the activity. If a child cannot perform the activity, it will not be effective to use this as an opportunity for teaching social skills. An ecological assessment provides information for the team to utilize in making programmatic decisions.

Retrieved 9/15/09 from <u>http://www.autismnetwork.org/modules/social/ecological/</u> lecture01.html.



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#### FAQs about Ecological Assessment

#### Q: What is an ecological assessment?

A: An informal assessment (or gathering of information about an individual) in everyday situations to determine what is needed in each of these situations. Because generalization is difficult with individuals with ASD, teaching an assortment of



skills and assuming the individual will apply these skills as needed in other situations is not efficient. It is best to teach the skills necessary in each setting.

#### Q: What kind of information does an ecological assessment provide?

A: An ecological assessment creates lists of skills and behaviors that can be clearly defined and taught for particular settings.

#### Q: In what locations should an ecological assessment be conducted?

A: Any! Ecological assessments can be conducted for specific environments (church, restaurant, or school), for locations in these environments (sitting in a pew, the counter for placing an order, the restroom), activities in these environments (waiting in line, placing an order, finding the restroom), and skills utilized in these environments (waiting, communicating a desired menu item, asking for the location of a restroom).

#### Q: Who can conduct an ecological assessment?

A: Anyone who has knowledge of an environment and all of the skills (behavioral, emotional, communicative, etc.) necessary to navigate that environment successfully.

#### Q: What is the benefit of an ecological assessment?

A: Ecological assessments are a piece of what is called an ecological approach, which simply means that learning opportunities occur and are derived from everyday life or natural contexts.

#### Q: When should an ecological assessment be conducted?

A: When taking an individual with an ASD to a new environment, an ecological assessment should always be conducted at the very least in order to have the necessary information and preparation for the challenges, duties, and stresses of the upcoming situation in relation to the individual with ASD. Individuals with an autism spectrum disorder should be prepared to the fullest extent for novel situations. Conducting an ecological assessment serves as reconnaissance – invaluable information gathering that can be used to dictate the skills and behaviors that need to be learned to successfully navigate this situation.

Retrieved 9/15/09 from <u>http://www.autismnetwork.org/</u> modules/social/ecological/fag.html.



## Adapting Ecological Assessments to Students with ASDs

The two basic rules of adapting ecological assessments to students with ASDs are simple:

- 1. Presume competence in the individual's knowledge and understanding of what should be done; and
- 2. Assume MACS differences get in the way of the individual's ability to demonstrate that knowledge and understanding.

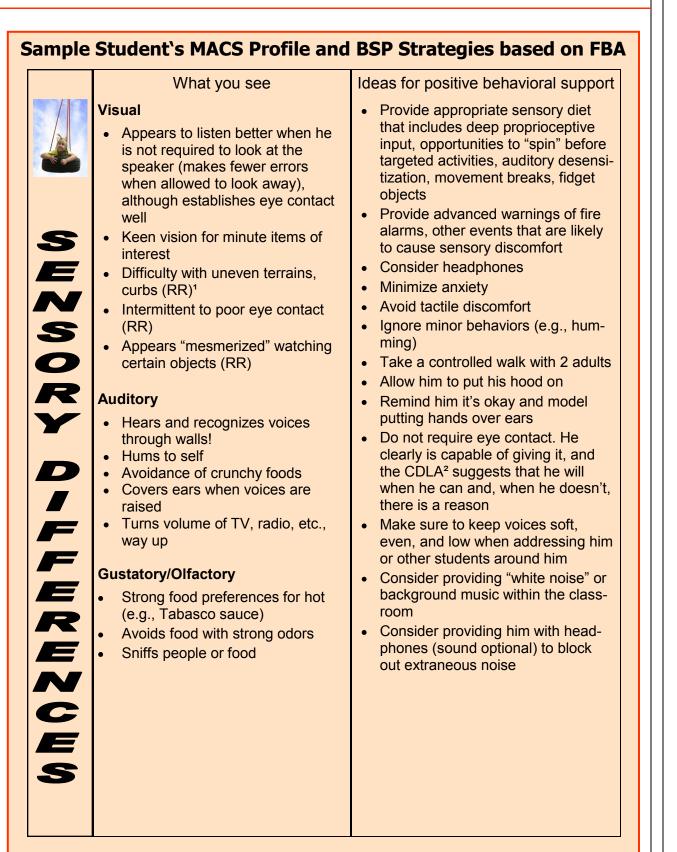
Based on your assumption of how the person's movement, anxiety, communication, and sensory differences interfere with performance, then research-based strategies can be identified that are more likely to be successful.

Here is an example of how an ecological assessment incorporating the MACS approach was used to design an IEP for a student with autism who was fully included in his chronologically age-appropriate general education classes:

What you see
<ul> <li>Stopping, cont.</li> <li>Outside – running to the field</li> <li>Yell – "I'm angry"/generally not making sense</li> <li>Touching others lightly or not gently</li> <li>Walking away</li> <li>Leaving a room</li> <li>Grabbing things out of teachers hands (also executing)</li> <li>Looking into or walking into other classrooms</li> <li>Changing</li> <li>Refusal to sit</li> <li>History of difficulty with classroom transitions</li> <li>Difficulty transitioning from home to bus and vice versa, bus to school and vice versa, bus to school and vice versa, etc.</li> <li>"Needs" to sit in a certain seat, have things done a certain way</li> </ul> Executing <ul> <li>May "double back" when walking</li> <li>Goes the wrong way even though knows where to go (also stopping)</li> <li>Relies on predictable routines</li> </ul> Combining <ul> <li>Difficulty with advanced motor skills</li> <li>Needs to read aloud while following along (also stopping)</li> </ul> Stops in mid-task <ul> <li>See communication challenges</li> </ul>

	What you see	Ideas for positive behavioral support
ANXI ETY	<ul> <li>Checks that things are in their place</li> <li>Self-talk appears soothing</li> <li>Doors have to be either open or closed</li> <li>Has real fears (e.g., of trying new things out, of certain men, of missing lunch/recess)</li> <li>Agitation (rocking, rolling of head, physical noises)</li> <li>Crying or laughing (may be inappropriate to the situation)</li> </ul>	<ul> <li>Teach strategies to control compulsions</li> <li>Allow self-talk, rocking, and other soothing behaviors as long as task can be completed (if not, take a break and return later)</li> <li>Write social stories to address fears</li> <li>Avoid stressors (e.g., yelling, punitive consequences, unanticipated changes in routines whenever possible)</li> <li>Use systematic desensitization to feared items/activities with a trusted person</li> <li>Provide calming, high preference, low demand/no demand activities when upset</li> <li>Initiate a self awareness chart</li> <li>Take a controlled walk with 2 adults</li> <li>Allow him to put his hood on</li> <li>Have directions clearly written out (check/task list) to reduce anxiety</li> <li>Teach him to understand his own levels (from a 1 to a 5) and provide a list of things at each level that will help to bring that level down to whatever is acceptable for the place he currently is at (see also sensory strategies)</li> </ul>

#### Sample Student's MACS Profile and BSP Strategies based on FBA Ideas for positive behavioral support What you see Relies on cues to ask to have Assume competence despite diffineeds met instead of initiating culties with oral language requests Since oral language is not reliable, Echolalia (may also be movement accept alternative strategies (even if CO difference) initially inappropriate) for expression Word finding (seems to "find") Provide way to respond "neither words by category instead of one" or "ask me a yes/no question" actual name) М Provide opportunities to make Mixes up words in sentences choices nonverbally М (e.g., "the handle is missing the Introduce typing or writing as alterscissors") natives to oral language U Incorrectly applies a rule of gram-• Find out WHY he is attempting to mar (e.g., "the man is missing the escape/avoid and reward positive arm" or "the cats have mouth" or communication "is missing the two eyes") Find out WHY he is engaging in Repeats phrases С other inappropriate behaviors at the • Appears to give answers that are moment (mini-FBA) and support 4 off task given a choice of 2 behim in resolving his problem. Consider the following options: cause he doesn't have a way of 7 saying "neither" I don't understand Responds to same concern differ- Something is bothering me ently depending on how the ques- I'm tired/hungry/sick/upset 0 tion is asked of him · I'm so confused "Scripts" loudly I need something else to help me Not leaving an area when asked I don't feel good Not following directions Use AAC to enhance ability to com-C Not paying attention municate real wants and needs H Not listening when expressive language is more Crying difficult (see *movement* and *anxiety*) A Continue to encourage him to "use Walking away your words" Refusal to go home/school Give him a clear and meaningful Leaving a room L way to ask for a break or to ask for something needed E N G



<sup>1</sup> Records Review

<sup>2</sup> Criteria of the Least Dangerous Assumption (Donnellan & Leary, 1995)

What you see	Ideas for positive behavioral suppor
<ul> <li>Tactile <ul> <li>Insists on same types of clothes</li> <li>Scratching own arms/legs/face</li> <li>Avoidance of "slimy" foods</li> <li>Pulls away from touch by others</li> </ul> </li> <li>Proprioceptive <ul> <li>Head-banging</li> <li>Slam into wall</li> <li>Touching others lightly or not gently</li> <li>Walking or running away</li> <li>Slam into wall</li> <li>Pushes up against/leans into others (especially when no chair back)</li> </ul> </li> <li>Vestibular <ul> <li>Spins in perfect circles in gym</li> <li>Rocks in cafeteria, assembly</li> </ul> </li> </ul>	<ul> <li>Avoid touch cues. When physical prompts are appropriate to provide error-free learning, make sure he knows he is about to be touched and maintain sufficient pressure so the sensation is not aversive</li> <li>Parents may want to explore the benefits of a functional vision evaluation to determine whether lenses that alter visual perception are appropriate</li> <li>Parents may want to explore the benefits of auditory integration training</li> <li>A copy of <i>The Fabric of Autism</i><sup>1</sup> is being provided to the parents because the H.A.N.D.L.E. approach addresses many of his particular sensitivities</li> <li>Experiment with various chair options to find one that is more comfortable for him (e.g., to replace leaning into others).</li> <li>Parents may want to consider a more controlled diet using <i>Special Diets for Special Kids</i><sup>2</sup> (a reference they already own) as a guide to his nutrition</li> <li>Low demand/no demand in PE and other noisy environments</li> </ul>

- <sup>1</sup> Bluestone, J. (2005). *The fabric of autism, weaving the threads into a cogent theory.* Seattle, WA: The H.A.N.D.L.E. Institute.
- <sup>2</sup> Lewis, L. (2010). Special diets for special Kids, volumes 1 and 2 combined: Over 200 revised gluten-free casein-free recipes, plus research on the positive effects for children ... ADHD, allergies, celiac disease, and more! Arlington, TX: Future Horizons.

As can be seen from the ideas for positive behavior support, all "interventions" address the movement, anxiety, communication, and sensory differences of the student. We have found that using this type of approach, which focuses on antecedents to behaviors that could be seen as challenging if not understood within the context of the neurological differences resulting in ASD diagnoses, often eliminates the need to use more formal positive behavior supports.

#### Points to Ponder in Relation to the MACS Model

Below is an excellent description of how one inclusive preschool program at the Experimental Education Unit at the University of Washington in Seattle has successfully included students with autism. The focus is on early intervention but, as should be apparent from two articles in Part 1 of this 2-part series of *The Inclusion Notebook*, students of all ages can have their educational needs met inclusively **regardless of how challenging their neurological differences are.** 

The goal of this program "...is to provide classroom activities that promote dynamic interactions between children and the environment, in a family-focused and developmentalbehavioral approach to instruction and curriculum (Allen & Schwartz, 1996). We work collaboratively with families to identify priorities, develop educational objectives, and evaluate program outcomes. To translate this philosophy into practice we plan classroom activities that promote high levels of engagement and provide multiple opportunities to apply systematic instruction to achieve educational goals (Bricker & Cripe, 1992). The classroom activities and instructional strategies are not only developmentally appropriate (Bredekamp, 1987), meaning they are individually and chronologically age appropriate; they also adhere to recommended practices for young children with disabilities, which means they are effective and systematic (Carta, Schwartz, Atwater, & McConnell, 1991; DEC Task Force, 1993)..." (Schwartz, Billingsley, & McBride, 2008).

The program's strategies to promote inclusion and responsible teaching of and learning by the students with autism are as follows:

- Teach Communicative and Social Competence
- Use Instructional Strategies that Maintain the Natural Flow of Classroom Activities
  - 1. Teaching occurs in the natural environment.
  - 2. Individual teaching interactions are typically very brief and distributed or spaced over a period of hours or days.
  - 3. Instructional interactions are typically child initiated.
  - 4. Instruction uses natural consequences (i.e., objects and events are highly salient and desired by the child).
- Teach and Provide Opportunities for Independence
- Proactively and Systematically Build a Classroom Community that Includes All Children
- Promote Generalization and Maintenance of Skills
  - 1. Targeting skills for instruction that will be useful in each child's life.
  - 2. Using instructional prompts judiciously and fading them rapidly.
  - 3. Using naturally distributed trials.
  - 4. Using common materials for instruction (Schwartz, Billingsley, & McBride, 2008).

**Reader's challenge:** Read the article by Ilene S. Schwartz, Felix F. Billingsley, and Bonnie M. McBride, *Including children with autism in inclusive preschools: Strategies that work*, at the following link <u>http://www.wiu.edu/starnet/newsite/pdf/handouts/Including%</u>20Children%20With%20Autism%20in%20Inclusive%20Preschools %20Strategies% 20that%20Work.pdf.

#### Consider these facts from the article:

- Students with ASDs in this classroom were not pulled out or pulled aside to learn. Rather, their curriculum was the classroom curriculum individualized to meet their needs and enable them to ACCESS that curriculum.
- There is a presumption that communication is essential. Students simultaneously use augmentative communication if they are not at age-level with their oral language AND participate in activities engineered to increase social competence. This is enhanced further as the classroom staff "proactively and systematically build a classroom community that includes ALL children" (including those with autism).
- Augmentative Communication is introduced early. (The Autism National Committee's guidelines state that this should be done by age 3 if the child is not speaking in a *chronologically age-appropriate manner*.)
- Natural opportunities to model typical peers are seen as key to developing essential imitation skills. Adults do not model separately in a segregated setting.
- Distributed practice (rather than massed practice) is used consistently with the applied behavior analytic research that shows the benefits of spreading practice out over the course of a day rather than building on the automaticity challenges already faced by children with ASDs.
- Different cues are used via scaffolding as a way to teach children to generalize their response, to assure they only receive the necessary amount of prompting, and to prevent something the behavioral literature calls satiation (i.e., shutting down because the stimulus for the behavior loses salience). How different this is from 10 repetitive trials using the same mands!
- There is a presumption that children who have difficulty with transitions need to learn how to make those transitions through routines, choice-making, and adults who move in and out (rather than being "Velcro aides").
- Applied Behavior Analysis is at its best in promoting generalization and maintenance of skills.
- Many other evidence-based practices are incorporated into this *inclusive* approach.

How does best practice in early intervention support and accommodate the movement, anxiety, communication, and sensory challenges of preschoolers with labels of autism spectrum differences? How does attention to the movement, anxiety, communication, and sensory challenges of preschoolers with labels of autism spectrum differences support best practice in early intervention?

#### Additional readings

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- Carta, J.J., Schwartz, I.S., Atwater, J.B., & McConnell, S.R. (1991). Developmentally appropriate practice: Appraising its usefulness for young children with disabilities. *Topics in Early Childhood Education, 11*, 1-20.
- DEC Task Force on Recommended Practices (1993). *DEC recommended practices: Indicators of quality in programs for infants and young children with special needs and their families.* Reston, VA: Council for Exceptional Children.

#### Just a few current on-line resources

National Professional Development Center on Autism Spectrum Disorders at <u>http://</u> <u>autismpdc.fpg.unc.edu/</u> for descriptions on many of the 24 evidence-based practices.

National Early Childhood Technical Assistance Center, information on autism at <u>http://</u><u>www.nectac.org/topics/autism/effecprog.asp</u>.

by Sherri James Buxton

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## Look What These Kids Can Do! Teaching Music To Children with Autism

by: Sherri James Buxton

WWW What a wonderful time we had in the music room today. Today, Stephen participated for the first time in a singing and movement game. For that matter, it was the first time ever that Stephen participated in any class activity. What makes this a remarkable event is that Stephen is a first grader with autism. For him to leave his paraprofessional's side to join in a circle and initiate a partner game with other children is very exciting.

I've seen several success stories like this in my music room lately. Guy, another first grader participated for the first time during a lesson on reading simple four beat rhythms using quarter notes, eighth notes and quarter rests. The students had previously learned how to read rhythms using the Kodaly method of Ta and Ti-ti. On this particular day, they were to listen to me clap a rhythm, say it in their heads in "Ta language" and then point to it on the board. Guy, who had never communicated with me in any way proceeded to say all of the patterns back to me and correctly identify them on the board.

Robert, who kept saying "no" when he really meant "yes," did the grand right and left with his fourth grade class. It was his first time participating in music class since kindergarten.

What makes the difference between children who screamed when they entered the music room in kindergarten and sat on the sidelines with a one on one paraprofessional and children who are communicating and participating in class? And why have I seen so many other success stories in my music room lately? The answer is simple: "Knowledge." Mine.

I've been teaching general music to elementary school children (K-5) in an inclusive classroom in the Central

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I didn't communicate directly with these students, because they each had a paraprofessional who, I thought, knew more about the child than l did... knowledge has empowered me to communicate directly with these students and build relationships that I wouldn't have believed possible

Berkshire Regional School District for 13 years. During my first week, I learned what autism was, or should I say what I thought it was. I had no idea what goes on in the minds and brains of children with autism. Nor did I know what these bright minds are capable of and how much children with Autism Spectrum Disorders (ASD) can add to a music class.

I saw what most people see; children flapping, making wordless sounds, unable to make eye contact or socialize in any way. I didn't communicate directly with the students because they each had a one on one paraprofessional who, I thought, knew more about the child than I did. I saw teachers try to coax kindergartners with Autism into my room with the goal of getting them to stay all period, but no one explained to me why the child didn't want to come to music in the first place. I didn't know that they might have had sensory issues or difficulty transitioning. I saw paraprofessionals and teachers give children food or toys as rewards for sitting quietly and not interrupting the class. So I celebrated little feats like when a child wouldn't interrupt the class by screaming or running around the room. In short, my assessment was based on behaviors not on skills.

It's amazing what a little knowledge can do.

Recently, I was privileged to be accepted into a course entitled "An Intensive Institute on Proven Practical Strategies for Educating Students with Autism Spectrum Disorders in General Education Classrooms from Pre-K through High School" sponsored by Community Resources for People with Autism in Easthampton, Ma. It was funded by the Massachusetts Department of Education. The course was coinstructed by Paula J. Fredericks, Ed. D., inclusion Consultant specializing in Children with Autism Spectrum Disorder and Linda H. Rammler, M.Ed., Ph.D. of Rammler and Wood, Consultants, LLC d/b/a the Autism Spectrum Differences Institute of New England. They are two of the most passionate women I've ever met and their passion to help those with ASD is extremely contagious.

What I learned from this intense and rewarding experience has changed my life and my teaching and I feel that every music teacher and specialist should take a course or workshop like this in order to understand the truth about people with autism; what it really is, how it manifests itself, and how to effectively teach children on the ASD spectrum. In short, this knowledge has empowered me to communicate directly with these students and to build relationships that I wouldn't have believed possible.

#### WHAT IS AUTISM

Simply put, Autism is a "different way of being". Because the brain functions differently in ASD children, they face increased challenges to learning when compared with our "typical" students. These challenges vary in degree depending upon where a child falls on the ASD spectrum (from low functioning to high functioning [Asperger's Syndrome]). It's as if children with Autism are wired differently.

In the past, many children were misdiagnosed as severely retarded at a young age because they were unable to talk or communicate even though they may have been reading books by age two.

First person accounts have helped me understand the world of people with autism. Most impressive was the opportunity to meet and listen to lectures by Jacob Pratt and Stephen Shore, who didn't speak until he was seven and is now in the process of getting his PHD.

#### WHAT AUTISM LOOKS LIKE

The wide range of movement, anxiety, communication and sensory differences in children with ASD make functioning in a typical classroom difficult. In working with children, Rammler & Wood Consultants developed the "MACS model," an approach that addresses these movement, anxiety, communication, and sensory differences. It is an extremely helpful tool in understanding our ASD students and knowing how to teach them.

#### TEACHING MUSIC TO CHILDREN ON THE SPECTRUM

In his book "Beyond the Wall," Stephen Shore, a man with Aspergers, says "there are many benefits from teaching music to people on the autism spectrum." His life was changed completely once he found the band room in middle school.

Children with autism need structure and musical symbols and patterns can provide that. Guy's reward for doing his schoolwork is to look at a music book and read the "ta's and ti-ti's". His teacher has told me that it is his favorite thing to do.

Music can also help students with ASD communicate better (Shore). Even children with limited verbal skills can increase their skills based on the start they get through music. Karleen, a 5<sup>th</sup> grader who can hardly verbalize, is so happy to be in chorus. She smiles and sings beautifully on "ah" or "la" and I've heard her talk more since she has been trying to remember the lyrics of the songs so she can sing with her friends.

Stephen Shore also talks about the fact that music provides a way to relate to others (class mates, parents and teachers) and how moving to music can help organize children's behavior. I find that to be true for all children. Among other things, music teaches turn taking, cooperation with others and coordination (Shore). As music teachers, we provide a safe environment (Kluth) that leads to a sense of accomplishment and self esteem.

A study at Beth Israel Hospital in Boston (Schlaug, Jancke, Huang, Stagier and Steinmetz, 1995) showed that there is a physiological value for children with autism who study music at an early age. They found that the corpus collosum, the bundle of nerves that carries signals between the brain's two hemispheres, is about 12% thicker among children who studied a keyboard instrument before age seven than those who began later or not at all.

Paula Kluth talks about the importance of building communication

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and trust with students on the Autism Spectrum. I find myself stopping into the autism specialist's room often to see what the students are doing and to learn more about them. From what I've seen and heard, these kids are talking up a storm in their safe environment. Sometimes, what I teach them in music shows up elsewhere at a later time because of delays in processing, and I arn so happy to know that there is a carry over.

Kluth also writes about the importance of celebrating diversity. My students and I try to celebrate the growth and special qualities of all learners in the music room and I try to be flexible and adjust my lessons spontaneously to fit the needs of all my students, not just those on the ASD spectrum.

As music teachers, we are fortunate that we can reach children with autism through something that they may already love. Music opens the lines of

communication between us. Robert, a 4<sup>th</sup> grade ASD student said to me the other day, "Here comes my best friend." I've always known that music is a universal language, but now, my universe has become much bigger thanks to all of my new "best friends" on the ASD spectrum.

I know how pressed for time music teachers are, and how thinking about differentiating even one more lesson can seem like a daunting task, but take it from me, a little knowledge can go a long way. I urge you to learn more about these wonderful children. Their creativity will be a gift to you and music will be your gift to them.

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#### How Camp Counselors and 1:1s Can Include Kids with Autism in a Typical Summer Camp Setting: It's NEVER Too Early to Start Planning!



By Larissa Gionfriddo, Recreation Therapist

Parents and educators are often wondering if children with autism really benefit from the 3-6 week long, shortened day summer program offered by most school districts. Clearly "if you've met one person with autism, you've met one person with autism." Therefore, any "one-size, fits all" extended year program is not likely to prevent regression or continue progress that has been very challenging to achieve. Given that there is no real evidence that autism is an intellectual disability, *per se*, but rather one involving complex neurological differences affecting movement, anxiety, communication, and sensory systems of the brain, as well as the interconnectivity between those systems and others, some important questions (and answers) are:

**Question:** Does the student really need academics to prevent regression or is regression more likely to occur in communication, socialization, and adaptive behavior?

**Answer:** Academics are probably far less important than getting more opportunities to learn, maintain, generalize, and, most importantly, prevent regression in these other areas.

**Question:** If we know students with autism learn best from nondisabled peers, where is an appropriate summer program involving typical peers most likely to occur?

**Answer:** Camp or other summer programs. The advantage of most camps is that they run 6-10 weeks so there is no likelihood of regression during a lengthy summer break from the typical school year.

**Question:** Will specialized supports, accommodations, instructional strategies, and other approaches which build on the MACS Model and assure that a summer camp experience is successful for ALL concerned be needed?

**Answer:** Yes! Read more for ideas about these.

According to Ms. Gionfriddo, these are the "tricks of the trade" for successful camp for ALL, including children with "all levels" of autism:

- 1. <u>Know the basics</u>. There are some principles of inclusion that all adults working at summer camps need to know and follow. These are:
  - a. If I am 10, talk to me like other 10-year-olds. Don't talk to me like I'm 3. I am in a group with other 10-year-olds not with younger kids. This goes for campers of all ages. My friends are going to be kids my own age, regardless of my disability.
  - b. If I'm the age of other C.I.T.s, I am a C.I.T. I am not a camper. My friends are going to be other C.I.T.'s.
  - c. If I am 19, I am a counselor with a job coach, not a camper or a C.I.T. This means I also get to go to all the camp trainings before camp starts and participate in all the counselor team-building activities because I am part of the counselor team. My friends are going to be other counselors.
  - d. Everyone needs to play, have fun, and make friends at camp.
  - e. It is the law that all children with disabilities have to have the reasonable accommodations they need to play, have fun, and make friends at camp, too.
  - f. Separate is not equal!
- 2. <u>Meet the campers</u>. A fully inclusive camp includes ALL children. Some children fit in easily. They "get" the whole camp idea. They're excited, they want to participate, they want to meet new people, and they want to have fun. Then there are those who come because their parents are making them and they often get in trouble because they are the least enthusiastic about all that's going on. Then there are those who are outcasts, those with mild disabilities like learning disabilities, those who are shy, and those who are otherwise different. The good news is that these reluctant campers are often the best ones to target to interact with children who have more significant disabilities. Another option is to encourage those who fit in to welcome kids with disabilities into the excitement of what they are doing to motivate, encourage and make these other campers feel wanted. Meeting the campers helps you decide who's fine on their own, who will need more motivation through different social interaction "jobs," and those who really need help. This may be difficult to do before the first day of camp but should be done as soon as camp actually starts.
- 3. Assess the needs of campers with disabilities. Counselors should always meet the child with a disability before camp begins so they are not surprised by the types of support he/ she needs. Some may need 1:1 support from an adult who has a background in inclusion. This means they need to be creative, have a knowledge of disabilities, and can take themselves out of being adults and into being a child again so they know how to approach and play with children. Observation is the best way to gather information. Schools should complete forms or develop a "Who I Am Book" for the child that answers the following questions with the child's parents:
  - a. Things I like
  - b. Things I don't like
  - c. How to help me when I do \_\_\_\_
  - d. Things I do because of my disability, that I cannot help, and how to respond to these
  - e. Ways to include me

- 4. Don't omit the kids who weren't identified beforehand. Children who are in trouble often are the kids who have the greatest need to feel worthwhile. The best way to involve them is, instead of trying to punish them all the time, go up and invite them to help out with a camper with a disability. Say something like, "What's wrong? I know you don't really want to do the \_\_\_\_\_\_ activity, what if you helped (the child with the disability)?" When the camper asks how, tell him the best way would be if he showed the child with a disability HOW to do the activity or guide the child with the disability to mimic what he does. The adult should remain in the shadows and coach the "troublemaker."
- 5. <u>Develop a "Circle of Friends"</u>. This usually works better for girls than for boys. Invite the campers to a "special lunch" or another special time to get to know the camper with a disability. During this meeting, play "Getting to know you games," emphasizing what the kids have in common. Examples are:
  - a. For an active child who has a lot of sensory issues, have a sensory-based activity that all can participate in. Trampolines, yoga, or bouncing in the pool together may help. Everyone has to take a turn to redirect the active child back to the group while introducing themselves to her and telling her one thing THEY like to do in their free time.
  - b. If the child is verbal, have him/her explain what they are good at and what they need help with. Have the other campers do the same thing.
  - c. If the child is not verbal, have an adult explain ways to help the child or what to do if s/he appears to be ignoring you.
  - d. If you've never done this before, see Rammler, L., & Pratt, J. (2009). The premier "Friendship Doctors' Column" in the e-zine, The Voices and Choices of Autism, 1(1), 23-27. <u>http://autismvoicesandchoices.weebly.com/</u> <u>uploads/2/7/1/9/2719366/welcome to the premiere issue of.pdf</u>.
- 6. <u>**Clarify the 1:1's role.**</u> Every time the 1:1 intervenes, the natural connection of friends helping friends is broken. It is appropriate for the 1:1 to assist with the following types of tasks:
  - a. If the child needs to be changed (e.g., because of toileting issues or to help with bathing suits), the 1:1 needs to do this.
  - b. If the child needs to be fed, this is a job for an adult.
  - c. Occasionally, the child with the disability may actually need an adult's intervention for behavior (e.g., if the child has autism and they are "done" participating after a certain length of time and need a break to collect themselves). The 1:1 should redirect and supervise the break for an appropriate amount of time but then re-involve the child with the group. If this is not possible, the 1:1 should invite another nondisabled child from the group to play a calmer game in a more quiet setting OR encourage the counselor to change the activity to include

EVERYONE. Children typically do not have the attention span to do an activity for an entire camp period anyway so changing the activity for all could be beneficial to all and isn't going to hurt anyone.



- 7. <u>Adapt activities so all are included</u>. Come up with an activity that can only be completed if the campers involve or help the child with the disability. Avoid competitions unless it is a "Circle of Friends" for child A versus a "Circle of Friends" for Child B. However, it is important that the child whose circle it is still has an active role in the competitive activity. This may mean that the adult runs with them to a base or creates a rule to delay "outs" (the ball has to be passed to three outfielders before being thrown to the base). Other examples include:
  - a. <u>Arts and crafts</u>. Make a mandala in which each camper puts their hands in paint and then makes a handprint in a circle. This can be put up somewhere at the camp for all to see. Every camper would sign their names in their handprints and the child with a disability, if s/he cannot do this, can be helped by asking "How can you all help her do this?" This teaches the children inclusive problem-solving and how to come up with creative solutions to meeting the needs of people with disabilities. If everyone is making flowers, have the kids make enough petals to have someone else in the group give a positive comment about them. The camper with the disability can choose from premade petals ("I like you," "You're a good friend") or just tell another camper what to say who can make their petals for them.
  - b. **Pool games.** "Pass the ball," play tag, or Marco Polo in which the nondisabled kids partner up with their friend with a disability if s/he needs support to play the game. Otherwise, play the game with no outs or "it's everyone's job to keep 'It' from catching certain people" or "it's everyone's job to keep the ball out of the water."
  - c. *Field games.* See pool games. The same types of adaptations apply.
  - d. <u>Performances</u>. Remember, it's camp not drama school! If the child is extremely creative (e.g., can write a song) there should be no trouble. Include the song. The child should be there but be flexible about his/her role. Make sure the role is not essential to the performance but can be seen as a valued role if the child is able to participate.
  - e. <u>Whole camp "meetings" (e.g., spirit time, flag time)</u>. Be mindful that these can be too loud or too long for any camper. Keep activities short and allow individual counselors to pull aside kids who are having difficulty and do another activity positively and without punishing them.
- 8. <u>Facilitating social connections</u>. If the adult has to really work to include the child with the disability in these activities, the role needs to be that of "another counselor for all the children." S/he should actually play in the group, helping ANYONE who needs it so they are not seen as assigned only to the child with the disability. Being a hovercraft makes other children see the 1:1 and the child with the disability as a pair and a pair that does not need to be invited to participate with everyone else. Remember that friendships grow. Don't push things too far or you may get the reverse reaction. Too many demands on anyone can turn children off.

9. <u>Have reasonable expectations</u>! It's camp! It's supposed to be fun! A long camp day is hard for children without disabilities, too. Set a reasonable goal for how long each child should participate before taking a break. If a particular child has difficulties sitting still, allow a member of his/her friendship group to take time away to be with the child.

If you want to be good at doing this, try observing someone who already knows how. Remember that no books or guidelines are going to tell you how to deal with different personality traits or different sets of circumstances. It's time to think outside the box and prepare for something different every time because no one inclusive friendship opportunity looks exactly like any other!



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