

## What Every Administrator Needs to Know About Autism and Asperger Syndrome

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### Triad of Characteristics Among Individuals with Autism Spectrum Disorders

Social Interaction Deficits

Speech/  
Language Deficits

Behavior  
Anomalies

### Salient Components of Autism Spectrum Disorders (ASD)

ASD is a complex developmental disability that typically occurs early in life (usually by year 3).

ASD is a neurological disorder; there is no known psychogenic etiology for autism.

The precise prevalence of autism is unknown, however it appears to occur 1 per 166 individuals.

ASD is 4 times more common in boys than girls and knows no racial, ethnic, or social boundaries.

Family income, lifestyle and educational levels do not affect the chance of ASD occurrence.

### The Complex and Co-Morbid Nature of Autism Spectrum Disorders

Mental Retardation

Communication Impairments

Seizures

ADHD

Obsessive Compulsive Disorders

Mood disorders and Depression

Anxiety disorders

Explosive disorders

Stereotypes and Self-Injurious-Behavior

### The Enigma of ASD

- Definition, characteristics and criteria of ASDs have evolved and expanded
- Inherently elusive nature of ASD
- Variable forms of ASD

### Autism Spectrum Disorders: The Diagnostic and Statistical Manual of Mental Disorders-IV Classification System

#### Pervasive Developmental Disorders:

1. Autistic Disorder
2. Childhood Disintegrative Disorder
3. Asperger Disorder
4. Rett's Disorder
5. Pervasive Developmental Disorder--Not Otherwise Specified

## Salient Elements of Asperger Disorder

- Social
- Communication
- Behavioral/Emotional
- Intellectual/Cognitive
- Academic
- Sensory
- Motor

## Social and Behavioral Characteristics of Asperger Disorder

### **Social**

- ✓ Social withdrawal
- ✓ Unskilled initiations and responses
- ✓ Socially stiff, awkward, emotionally blunted, self-centered, unable to understand social cues, inflexible, lacking in empathy and understanding
- ✓ Emotionally vulnerable and easily stressed
- ✓ Easy targets for teasing and bullying

## Communication and Language Characteristics of Asperger Disorder

### **Speech/Language**

- ✓ Good speaking fluency
- ✓ Poor pragmatics
- ✓ Poor non-verbal skills

## Cognitive and Academic Characteristics of Asperger Disorder

### **Cognitive/Academic**

- ✓ Generally average intellectual abilities
- ✓ Obsessive, narrowly defined interests
- ✓ Concrete/literal thinking style
- ✓ Rigidity and inflexible demeanor
- ✓ Poor problem solving skills
- ✓ Poor organization
- ✓ Difficulty in discerning relevant stimuli

## Sensory and Physical/Motor Characteristics of Asperger Disorder

### **Sensory**

- ✓ Hypo- and hyper-sensitivity to stimuli
- ✓ Poor auditory processing, including sound sensitivity

### **Physical/Motor**

- ✓ Fine and gross motor challenges

## Asperger's Syndrome Characteristics Affecting School Performance

- ✓ Distraction/Inattention
- ✓ Tunnel Vision
- ✓ Rote Memory
- ✓ Visual vs. Auditory Processing
- ✓ Problem Solving Difficulties
- ✓ Motor Skills
- ✓ Motivation
- ✓ Difficulty comprehending abstract concepts
- ✓ Difficulty distinguishing relevant and irrelevant information

## Significant ASD Issues

### Issues related to ASD

1. The enigma and broad spectrum of ASD
2. Increased prevalence of ASD
3. Assessment challenges
4. The relentless etiology search
5. Complex needs of students with ASD and their families
6. Support service issues and debates
7. Placement issues and debates
8. Methodology and programming debates
9. The need for scientific methods and effective practices

## The Need for Evidence-Based Practices

- Long legacy of ineffective, overvalued and invalidated methods
- Ethical and moral imperatives
- Federal mandates: NCLB and IDEA/IDEIA
- Limited opportunities to make a difference, hence the need to use maximally effective strategies

## Scientific Method and Ways of Knowing

- Educators' decision making strategies, including policy formation and judgments of effectiveness of educational techniques:
  - ✓ Personal experience
  - ✓ Common sense
  - ✓ Expert testimony
  - ✓ Political and administrative influence
  - ✓ Science
    - Confirming and disconfirming hypotheses based on data

## Interventions and Treatments

- Interpersonal Relationship
  - Skill-Based
  - Cognitive
  - Physiological/Biological/Neurological
  - Other Interventions and Treatments
- Source:  
• National Research Council. (2001). *Educating children with autism*. Committee on Educational Interventions for Children with Autism. Washington, DC: National Academy Press.  
• Hefflin, J. & Simpson, R.L. (1998). Interventions for children and youth with autism: Prudent choices in a world of exaggerated claims and empty promises. Part 11: Legal policy analysis and recommendations for selecting interventions and treatments. *Focus on Autism and Other Developmental Disabilities*, 13(4), 194-211.  
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## Interventions & Treatments:

- Interpersonal Relationship
- Skill-Based
- Cognitive
- Physiological/Biological/Neurological
- Other

## Interpersonal Relationship Interventions & Treatments: Introduction

- Methods are based on the idea that individuals with ASD have a disability related to a problem of emotion or emotional bonding
  - ✓ the disability is an emotional reaction to environmental factors
  - ✓ Treatments for ASD associated with interpersonal relationship facilitation are typically based on psychotherapy
  - ✓ these approaches seek to facilitate affect, attachment, bonding, and a sense of relatedness

## Interpersonal Relationship Interventions & Treatments: Overview

- 1) Holding Therapy
- 2) Gentle Teaching
- 3) Option Method (Son-Rise Program)
- 4) Developmental, Individual-Difference Relationship-Based Model (Floor Time)
- 5) Play-Oriented Strategies
- 6) Pet/Animal Therapy

## Developmental, Individual-Difference Relationship-Based Model (DIR) (Floor Time)

- Developed by Stanley Greenspan, M.D. (1992)
- Play-based interactive intervention approach that emphasizes individual differences, child-centered interests, and affective interactions between a child and caregiver.
- Based on Greenspan's developmental theory which suggests that critical missed developmental or functional milestones may be systematically acquired through intensive child-directed play and positive interactions with warm and caring individuals.
- Four primary goals associated with the floor time method: 1) encouraging attention and intimacy, 2) two-way communication, 3) encouraging the expression and use of feelings and ideas, and 4) logical thought.

## Floor Time: Description cont.

- There are five steps in the floor time process:
  - 1) observation,
  - 2) approach-open circles of communication,
  - 3) follow the child's lead,
  - 4) extend and expand play, and
  - 5) child closes the circle of communication
- Research & Reported Benefits
  - There is informal literature describing both the philosophy and practice of the DIR intervention that is available on the internet – no empirical studies performed
  - One informal study in 1997 with 200 young children with ASD – purpose to identify hypothesis for future empirical study
  - Anecdotal reports from families
  - More studies are needed to validate this intervention

## Skill-Based Strategies: Introduction

- The most commonly used methods of schools and other educationally oriented settings.
- Differ from the relationship-based approaches: intent is to develop, maintain, or support functional demonstration of specific skills rather than facilitate relatedness and bonding.
- Directly assess an individual's performance in areas germane to the needs of persons with autism spectrum disorders
- Target specific skills to teach in order to improve functioning in those areas.

## Skill-Based Interventions & Treatments

- **Scientifically-Based Practices**
  - Applied Behavior Analysis & Discrete Trial Training
- **Promising Practices**
  - Picture Exchange Communication System
  - Incidental Teaching
  - Augmentative and Alternative Communication
  - Assistive Technology
  - Joint Action Routines (JARs)
  - Structured Teaching (TEACCH)

## Skill-Based Interventions & Treatments

- **Limited Support**
  - Fast Forward
- **Not Recommended**
  - Facilitated communication

## Applied Behavior Analysis

- **Applied Behavior Analysis (ABA):** A systematic method of understanding, modifying and evaluating behavior. The foundation principles of ABA focus on the interaction between behavior and environmental factors, i.e., antecedents and consequences. The term "applied" denotes that behavioral targets are socially valid. ABA often involves systematically teaching small, measurable units of behavior. Each step is taught, often in a one-to-one teaching situation. Teaching trials are repeated until a student is able to do them independently. Data are recorded and evaluated regularly. Graphs of data are used to create pictures showing a student's progress.

## Discrete Trial Training

- Discrete trial training (DTT) is a specific, systematic method by which ABA is implemented
- Discrete Trial Teaching Method
  - Three part teaching system (an A-B-C paradigm) utilized to maximize learning.
  - Can be used to teach any skill with any age or population.
  - The technique involves:
    - 1) breaking a skill down into smaller parts;
    - 2) teaching each part at a time until mastery;
    - 3) providing concentrated teaching;
    - 4) providing prompting and fading as necessary;
    - 5) using reinforcement procedures

## Discrete Trial Elements

- Instruction (discriminative stimulus)
- Prompts
- Response
- Consequence
- Inter-trial interval
- Teaching session multiple trials; each have a distinct beginning and end.
- Each part of the skill is mastered before more information is presented.
- Distinguishable from traditional teaching methods because a very small unit of information is presented; student's response is immediately sought; data are used to make instructional decisions.
  - active student involvement is a requirement

## Basic ABA Elements

- Errorless learning
- Reinforcement
- Instructional control
  - ✓ Contingent reinforcement; increase difficulty & work load
- Instructional management
  - ✓ Curricula to match age, developmental level, appropriate training duration and frequency, mix new and mastered skills
- Prompting and fading
  - ✓ Fade prompts; use least intrusive prompts
- Shaping
- Correction procedures

## Curricular/Need Domains

- Motor/Physical
- Self-Care/Independent Living
- Social Interaction/Social Skill
- Communication/Language
- Academic/Pre-Academic
- Behavior
- Sensory

## ABA Data Collection and Analysis

- Purposes of Data Collection
  - ✓ Progress assessment
  - ✓ Communication vehicle
  - ✓ Optimal instructional guidance
  - ✓ Compliance, e.g., IDEA, NCLB
- Types of Data
  - ✓ Accuracy (e.g., correct/incorrect)
  - ✓ Level of assistance
  - ✓ Rate (i.e., responses within time interval)
  - ✓ First trial data
  - ✓ Duration
  - ✓ Work sample/portfolio
  - ✓ Interval/time sample

## Why the ABA and DTT Controversy?

- Issues related to outcome
- Issues related to exclusive use
- Issues related to extensive use
- Issues related to personnel
- Issues related to use of aversive methods

## Picture Exchange Communication System (PECS)

- A systematic method of teaching students a socially interactive and functional communication system.
- PECS phases
  - Phase 1: Physical Exchange
  - Phase 2: Distance and Persistence
  - Phase 3: Picture Discrimination
  - Phase 4: Sentence Building
  - Phase 5: Answers Questions Using Pictures
  - Phase 6: Commenting and Skill Building

## Incidental Teaching: Description

- Instruction provided during typical activities
- Based on student interests and motivation
- Steps:
  1. Pre-planned learning objectives
  2. Organize learning environments related to students' preferences
  3. Student initiates teaching session
  4. Teacher provides a question or prompt requiring an elaboration on the student initiation
  5. Student receives the preferred item

(McGehee, Daly, & Jacobs, 1994)

## Joint Action Routines

- Joint Action Routines (JARs) are natural language paradigm interventions wherein a child's environment supports and increases language use, social interaction and social understanding
- JAR types include (a) preparation or fabrication of a product (e.g., snack, product assembly), (b) story (pretend play) and (c) cooperative turn-taking games.

## Structured Teaching: Description

- Foundation: modifying the environment to accommodate the needs of individuals with ASD
- Four main components:
  - Physical organization/Environmental Supports
  - Visual supports
  - Work systems
  - Task organization

(Schopler, Mesibov, & Hearsey, 1995)

## Physical Organization and Environmental Supports

- ✓ Environmental modifications/supports
- ✓ Routines and structure
- ✓ Attitudinal support & peer education
- ✓ Home-base" programs
- ✓ "Safe harbor" programs
- ✓ Competent buddy pairing
- ✓ Protection from teasing/bullying
- ✓ Structured teaching
- ✓ Physical organization
- ✓ Work systems and task organization

## Visual supports that Support Behavior

- ✓ Visual Schedules
- ✓ Task Organizers
- ✓ Calendars
- ✓ Turn Taking Cards
- ✓ Waiting Symbols
- ✓ Choice Making
- ✓ Rules and Alternate Behaviors
- ✓ Consequence Maps
- ✓ Calming Supports
- ✓ Transition Supports
- ✓ Activity Completion Signals
- ✓ Introducing Change
- ✓ First, Then Cards

## Cognitive Interventions and Treatments

- **Promising Practices**
  - ✓ Cognitive Behavior Modification
  - ✓ Social Stories
- **Limited Support**
  - ✓ Cognitive Scripts
  - ✓ Power Cards
  - ✓ Cartooning

## Cognitive Behavior Modification

1. Operationally define the target behavior
2. Conduct discrimination training with student
3. Implement self-management: Self-monitoring, self-recording and self-rewarding procedures
4. Implement and shape self-management (overt speech, covert speech)
5. Support maintenance and generalization

(Myles & Simpson, 2003)

## Social Stories\*

### Social Story Components:

- Descriptive sentences
- Perspective sentences that describe the feelings and reactions of others
- Directive sentences are statements about appropriate behavioral responses
- Affirmative sentences (a shared value within a given culture)

\*[http://www.thegraycenter.org/Social\\_Stories.htm](http://www.thegraycenter.org/Social_Stories.htm)

## Power Cards

- The Power Card strategy connects an appropriate or desired behavior or social skill to an individual's area of special interest.
- Power Cards involve scenarios wherein a child's special interest, a hero, or a model connected to a special interest models a solution to a problem similar to the one experienced by the child.

## Cartooning

- The cartooning strategy uses visuals symbols to enhance social understanding.
- Abstract and elusive social protocol and situations are made more tangible and understandable by using cartoon analyses to clarify and structure future responses.

### **Physiological/Biological/Neurological Treatments and Interventions**

- Effective Practices
  - Pharmacology
- Promising Practices
  - Sensory Integration
- Limited Support
  - Scotopic Sensitivity Syndrome: Irlen Lenses
  - Auditory Integration Training
  - Megavitamin Therapy and dietary supplements

### **Sensory Integration: Description**

- Ability to internally organize sensory input, including visual, auditory, tactile, olfactory, gustatory, vestibular and proprioceptive
- Common characteristics of SI dysfunction
  - Over/under reaction to stimuli
  - Unusually high or low level of activity
  - Coordination problems
  - Behavior problems
  - Poor self-concept

### **Methodology Choices and Students with ASD**

- 1. Programs based on effective methods
- 2. Provision of appropriate intensity
- 3. Emphasis on meaningful outcomes
- 4. Creation of an individualized program
- 5. Documentation of student progress

### **Recommendations for Selecting Interventions**

- Five key questions to ask when discussing the programming and methodology elements for students with ASD
  1. What are the anticipated outcomes of the option?
  2. What are the potential risks?
  3. How will the method be evaluated?
  4. What proof exists to support the efficacy of the method?
  5. What options would be excluded if a particular method was adopted?

### **What are the anticipated outcomes of the option?**

1. Do outcomes promoted by an option match a students' identified needs?
2. Does the option promote significant educational gain or merely address symptoms?
3. How similar is the student to others who have benefited from the approach?

### **What are the potential risks?**

1. Are there health or behavioral risks for the student?
2. Are there risks for parents/families and/or school personnel?
3. What impact will the treatment have on the quality of life for the student and his family?
4. If the treatment/intervention fails, what are the implications?

### How will the method be evaluated?

1. How will progress be demonstrated?
2. How frequently will the intervention be evaluated?
3. Who will conduct evaluations?
4. What criteria will be used to determine if a treatment should be continued or discontinued?

### What proof exists to support the efficacy of the method?

1. Is the treatment published in peer-reviewed journals?
2. Does efficacy information come from a variety of sources?
3. Are the studies validating effectiveness of high quality?
4. Is empirical validation available, or does support come primarily from personal testimonials?
5. Do proponents claim the option has universal utility?

### What options would be excluded if a particular method was adopted?

1. How does the treatment rate in terms of restrictiveness and intensity?
2. Are there less restrictive/intensive alternatives that may be equally effective?
3. Are there other options that are better researched than this one?
4. Does the treatment option consider the functional communication and socialization needs of the student?