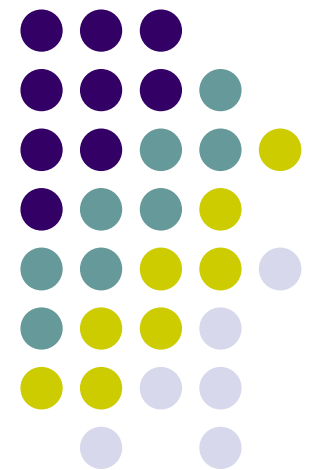


Evidence-Based Practice in Autism Spectrum Disorders: What Does it Mean?

CIGNA Autism Education Series

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Introductions & Overview

- **A. Introductions**
- **B. Overview**
 - What is Autism / Autism Spectrum Disorders?
 - Evidence - Based Practice Guidelines
 - Special Education Laws
 - What is Evidence-Based Practice?
 - Why do we need it?
 - How do we do it?
 - Evidence - Based Practices for Individuals with ASD
- **C. Resources**
- **D. Questions**





What is Autism ?

- Autism is a complex neurodevelopmental disability that causes problems with social interaction, communication and behaviors
- Symptoms usually start before the age of 3 and can cause delays in many different skills that develop from infancy to adulthood



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What is an Autism Spectrum Disorder (ASD)?



- Different people with autism can have very different symptoms
- Autism is thought of as a “spectrum” disorder or a group of disorders with similar features
- One person may have mild symptoms, while another may have severe symptoms, but they **BOTH** have an ASD



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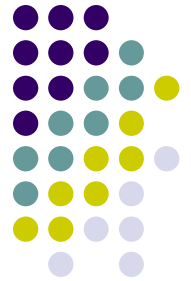
What Does the ASD Category Include:



- Autism (also called “classic” autism)
- Aspergers syndrome
- Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS or atypical autism)



Umbrella of Autism Spectrum Disorders



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What are the Symptoms of ASD?

- **Deficits in communication** – both verbal and non-verbal, ex: pointing, eye contact and smiling
- **Deficits in social skills** – sharing emotions, understanding how others think and feel and hold a conversation
- **Repetitive behaviors (stereotyped behaviors) or Routines** – repeating words or actions, obsessively following routines or schedules and playing in repetitive ways



Evidence Based Practice: Huh?



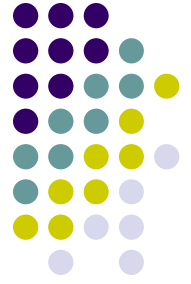
Words That Are Used Interchangeably But **DO NOT** Mean the Same Thing



- Scientifically – based research
- Research – based practice
- Evidence – based practice



Evidence-Based Practice Guidelines (EBP)



- Different disciplines (medicine, law, education) follow different guidelines as to what EBP means
- For our purposes, we will follow the guidelines from the Council for Exceptional Children (CEC) which sets educational guidelines
- The CEC is the largest international organization dedicated to improving the educational success of individuals with disabilities
 - CEC advocates for appropriate governmental policies in SpEd
 - Advocacy for families
 - Professional development
 - Have 17 different specialized divisions, i.e., autism, developmental disabilities, research, deafness



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Special Education Laws

- **A. No Child Left Behind (NCLB) 2001**
- US federal Act of Congress concerning the education of all children in public schools
- NCLB supports high standards and measurable goals which can improve individual outcomes in education
- Schools rely on **scientifically based research** for programs and teaching methods
- “Research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs in which scientifically based research results in replicable and applicable findings from research that used appropriate methods to generate persuasive, empirical conclusions”



(ERIC Clearinghouse on Educational Management June 7, 2007)

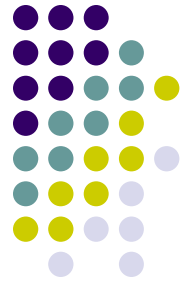


Special Education Law

- **B. Individuals With Disabilities Education Act (IDEA 2008)**
- The Individuals with Disabilities Education Act (IDEA) is a law that ensures services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities.
- Infants and toddlers with disabilities (birth-2) and their families receive early intervention services under IDEA Part C. Children and youth (ages 3-21) receive special education and related services under IDEA Part B.



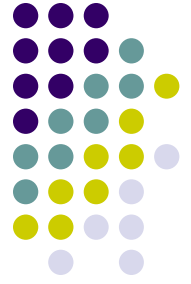
As A Result of NCLB and IDEA



- Teachers are REQUIRED to use evidence - based practices



Understanding the Buzzwords



- From a teachers' or practitioners' perspective, a basic understanding of research concepts can help them evaluate a potential practice or program
- The most critical concept is to understand the differences between:
 - Scientifically based research
 - Research - based practice
 - Evidence - based practice





Scientifically Based Research

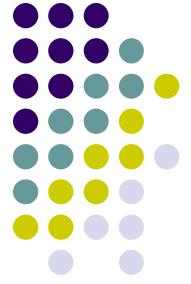
- NCLB (2006) refers to scientifically based research as methods used to test instructional practices which include:



- Cause - and- effect relationships (observable outcomes)
 - Replication by other scientists
 - Approval of a panel of independent experts before publication
- Scientifically based research answers the question “What is most likely to work?”



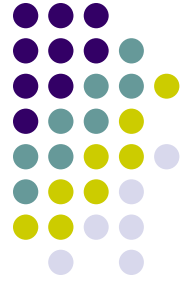
Research - Based Practice



- This is used to describe programs that have been studied in some way, but not using all of the quality indicators of scientifically based research
- This refers to a single study that has NOT been replicated, does not measure cause and effect relationships
- Also research - based provides little evidence of **generalizability**



Generalizability



- Research concept
- Can the results from one study be replicated or applied if used in another setting.
- **Example:** I developed a reading program for 8-year-old kids with ASD, collected data, interviewed parents / teachers and got positive results. Can I say that this reading program will work for ALL 8-year-old kids on the spectrum? (Research - Based Practice)





Evidence - Based Practice

- The effects of the intervention (ABA) **MUST** be measurable (i.e., improved reading scores on the Woodcock - Johnson)



- Intervention **MUST** show a clear cause - and - effect relationship with improved outcomes (i.e., using a control / comparison or experimental group)
- Intervention studies are sufficiently replicated



Why Do We Need to Implement EBP?



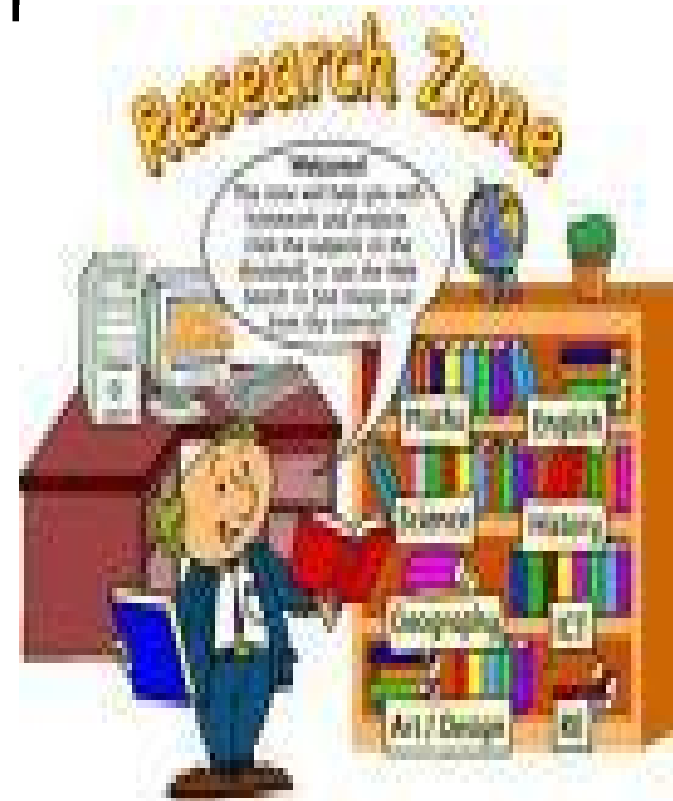
- Federal laws (NCLB & IDEA) that mandate in our classrooms
- Individuals on the spectrum **MUST** receive the highest quality of care
- Implementing EBP interventions have shown to have positive outcomes for individuals on the spectrum



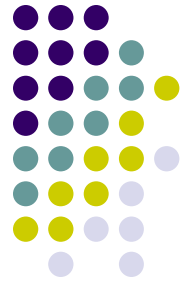


How Do We Implement EBP?

- Systematic Data Collection
- Analyzing Data
- Interpreting Results
- Replication



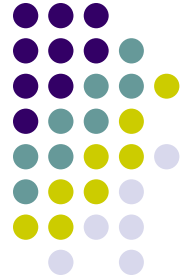
EBP For Individuals with ASD



- Antecedent-Based Interventions (ABI)
- Computer-Aided Instruction
- Differential Reinforcement
- Discrete Trial Training (Applied Behavior Analysis)
- Extinction
- Functional Behavior Assessment
- Functional Communication Training
- Naturalistic Intervention
- Parent-Implemented Intervention
- Peer-Mediated Instruction and Intervention



EBP for Individuals with ASD



- Picture Exchange Communication System (PECS)
- Pivotal Response Training
- Prompting
- Reinforcement
- Social Narratives
- Social Skills Groups
- Speech Generating Devices/VOCA
- Video Modeling
- Visual Supports



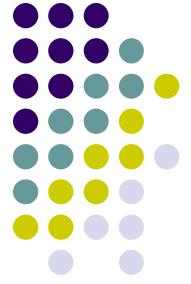
EBP For Children With ASD That We Will Discuss:





- **ABA**
- **Peer Mediated Instruction** (fostering friendships between typically developing children and children with ASDs)
- **Social Skills Groups**
- **Video Modeling**



Applied Behavior Analysis



- ABA is a one-to-one instructional approach used to teach skills in a planned, controlled, and systematic manner. ABA is used when a learner needs to learn a skill best taught in small repeated steps
- The use of antecedents and consequences is carefully planned and implemented. Positive praise and/or tangible rewards are used to reinforce desired skills or behaviors 
- Data collection is an important part of ABA provides teachers/practitioners with information about beginning skill level, progress and challenges, skill acquisition and maintenance, and generalization of learned skills or behaviors. 



Example of ABA

- Teacher working directly with a child





Peer-Mediated Instruction

- Peer-mediated instruction is used to teach typically developing peers ways to interact with and help learners with ASD acquire new social skills by increasing social opportunities within natural environments
- Peers are systematically taught ways of engaging learners with ASD in social interactions in both teacher-directed and learner-initiated activities

(English et al., 1997; Odom et al., 1999; Strain & Odom, 1986)

Peer Group Entry

(Beilinson & Olswang, 2003)



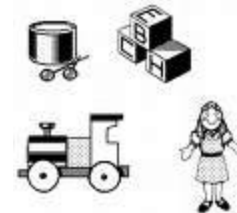
- Lead Child is assigned a role to establish group membership
- Child is prompted to initiate interactions
- Child is given highly valued objects, game, or 'prop'
- Target child is taught five-step sequence for entering group, using Visual Schedule





Peer Group Entry

1. Walk over to your friend.
2. Watch your friend.
3. Get a toy like your friend is using.
4. Do the same thing as your friend.
5. Tell an idea.



Social Skills Groups



- Social skills groups are used to teach individuals with ASD ways to appropriately interact with typically developing peers
- Social skills groups typically involve small groups of two to eight individuals with disabilities and a teacher or adult facilitator
- Most social skill group meetings include instruction, role-playing or practice, and feedback to help learners with ASD acquire and practice skills to promote positive social interactions with peers

Social Skills Groups



Can use commercial curricula, such as

- Navigating the Social World (McAfee, 2001)
- Skillstreaming the Adolescent (Goldstein & McGinnis, 2000)

Provide consistent group structure

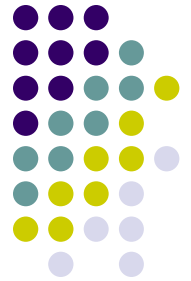
- Check-in, greet
- Review last meeting's skill
- Introduce new skill
- Model and role play new skill
- Snack, social time
- Activity that allows real-life practice of new skill
- Summary

Most effective when

- Targeting social-cognitive skills
- Done in school settings



Video Modeling



- Video modeling is a mode of teaching that uses video recording to provide a visual model of the targeted behavior or skill
- Types of video modeling include basic video modeling, and video self-modeling
- Basic video modeling involves recording someone besides the learner engaging in the target behavior or skill. The video is then viewed by the learner at a later time.
- Video self-modeling is used to record the learner displaying the target skill or behavior and is reviewed later



Video Modeling / Video Self-Modeling

(Nikopoulos & Keenan, 2003)



- Video representation of a desired behavioral interaction
- The child observes a video of a peer or him/herself engaging in a targeted behavior
- Basic premise is to “learn through observation”
- Examples: purchasing items at a store, initial greetings, washing hands, making lunch
- Video tape peers conducting interactions such as greeting, negotiating, etc.

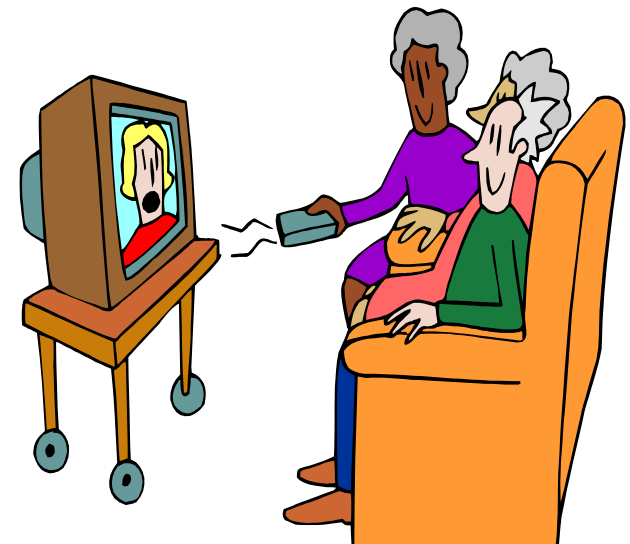


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Video Modeling

- View video, discuss reactions
- View video, attend to focused cue, discuss what was noticed or what changed
- Re-enact scene on video with clinician
- Re-enact with peer
- DESCRIBE VERBALLY while watching
- Improvise similar situation

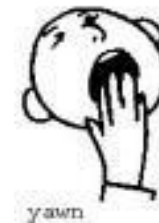




Using Video Modeling

Use video modeling and role playing to become aware of listener cues

- Looking at watch
- Taking a breath
- Looking toward door
- Yawning



Use role playing to practice giving and perceiving these cues

- Incorporate pictures and imitation to facilitate role playing



RESOURCES

- The Department of Education
 - www.ed.gov
- The Council for Exceptional Children (CEC)
 - www.cec.sped.org
- The Professional Development Center on Autism Spectrum Disorders
 - [http:// autismpdc.fpg.unc.edu](http://autismpdc.fpg.unc.edu)
- Autism Speaks
 - www.autismspeaks.org





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Questions / Comments ?



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THANK YOU !
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