Teaching Strategies for Students with ASD

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Evidence-Based Practices

• What are evidence-based practices?
• Why is using evidence-based practices important?
Evidence-Based Practices

• 27 EBP’s identified by the National Professional Development Center (NPDC)
• 14 identified by the National Standards Project
Evidence-Based Practices (NPDC)

- Antecedent-Based Intervention (ABI)
- Cognitive Behavior Intervention
- Differential Reinforcement
- Discrete Trial Training
- Exercise
- Extinction
- Functional Behavior Assessment
- Functional Communication Training (FCT)
- Modeling
- Naturalistic Intervention
- Parent Implemented Intervention
- Peer-Mediated Instruction and Intervention
- Picture Exchange Communication System (PECS)
- Pivotal Response Training (PRT)
- Prompting
- Reinforcement
- Response Interruption/Redirection
- Self-Management
- Scripting
- Social Narratives
- Social Skills Groups
- Structured Play Groups
- Task Analysis
- Technology-aided Instruction and Intervention
- Time Delay
- Video Modeling
- Visual Supports
National Standards Report

• Behavioral Interventions
• Cognitive Behavioral Intervention Package
• Comprehensive Behavioral Treatment for Young Children
• Language Training (Production)
• Modeling
• Natural Teaching Strategies
• Parent Training
• Peer Training Package
• Pivotal Response Training
• Schedules
• Scripting
• Self-Management
• Social Skills Package
• Story-based Intervention
Target Interventions

• In this presentation we will focus on the following evidence-based teaching strategies:
  – Discrete-Trial Training
  – Task Analysis
  – Antecedent- Based Interventions
  – Video Modeling
  – Prompting
  – Story Based Interventions
  – Incidental/Naturalistic interventions
Behavioral Interventions

- Discrete trial training
- Task analysis
- Antecedent Based Interventions
- Video modeling/prompting
- Prompting
Discrete Trial Training

Discrete Trial Training is based on Applied Behavior Analysis and breaks skills into small teachable units.

Components of DTI

- Initial *Instruction* (Sd) Given only ONCE!!!
- A *prompt* to get the correct response (if needed)
- A *response* from the student
- A *consequence* following student response (correct $\rightarrow$ positive reinforcement; incorrect $\rightarrow$ correction procedure)
- A short *pause* between the next trial (3-5 seconds)

Discrete trials do not always have to occur sitting at a table
Discrete Trial Training

- Demonstrated to be effective for teaching:
  - Academic skills
  - Attending
  - Imitation
  - Symbolic play

- Steps for implementation are available at
Task Analysis

Task analysis:

- Breaking down of a skill into its component parts
- Teaching each component part of the skill separately
- Chaining the component parts together to produce the target skill
## Task Analysis - Making a Sandwich

**Student Name:**

### *Response coding:*
- (+) step performed correctly
- (+P) step performed correctly with peer prompt
- (-) step performed incorrectly
- (NP) not performed

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Open bag of bread</td>
</tr>
<tr>
<td>2</td>
<td>Get out 2 slices of bread</td>
</tr>
<tr>
<td>3</td>
<td>Place bread on plate</td>
</tr>
<tr>
<td>4</td>
<td>Open peanut butter jar</td>
</tr>
<tr>
<td>5</td>
<td>Open jar of jelly</td>
</tr>
<tr>
<td>6</td>
<td>Scoop out peanut butter with a knife</td>
</tr>
<tr>
<td>7</td>
<td>Spread peanut butter on at least ¾ of one slice of bread</td>
</tr>
<tr>
<td>8</td>
<td>Scoop out jelly with the knife</td>
</tr>
<tr>
<td>9</td>
<td>Spread jelly on at least ¼ of the other slice of bread</td>
</tr>
<tr>
<td>10</td>
<td>Place either jelly or peanut better slice of bread on top of the other slice of bread</td>
</tr>
<tr>
<td>11</td>
<td>Close the jar of jelly</td>
</tr>
<tr>
<td>12</td>
<td>Close the jar of peanut butter</td>
</tr>
<tr>
<td>13</td>
<td>Cut the sandwich in half</td>
</tr>
<tr>
<td>14</td>
<td>Give ½ to peer</td>
</tr>
</tbody>
</table>

**Number of steps completed correctly:**
Visual Task Analysis
Antecedent Based Interventions (ABI)

- **modifying** educational activities, materials, or schedule
  - incorporating student interests
- incorporating student **choice** in educational activities/materials
- **preparing** students ahead of time for upcoming activities
  - priming
- **varying** the format, level of difficulty, or order of instruction during educational activities
  - varying high and low demand requests
- **enriching** the environment to provide additional **cues** or access to additional materials
  - visual cues, access to sensory stimuli
- modifying **prompting** and **reinforcement** schedules and delivery
  - varying access to reinforcement prior to educational activities
Differentiating Instruction

Students with ASD have diverse learning styles and often have splinter skills. It’s important to recognize these
Schedules

- Schedules are a set of pictures, (Boardmaker© or real pictures) an/or words (written or typed) that cue an individual to engage in a sequence of activities
- Schedules can be used in classrooms and other environments to promote independent functioning
Modeling

• The goal of modeling is to correctly demonstrate a behavior so that another person can imitate the model.

• **Live modeling**
  – When a person demonstrates the target behavior in the presence of the student.

• To implement:
  • Clearly define the target behavior.
  • Ensure all individuals modeling the target behavior are doing so in a consistent manner.
  • Obtain the child’s attention prior to modeling the target behavior.
  • Develop a plan to fade or stop the use of modeling.
Modeling

• **Video modeling**
  – Video modeling is a procedure whereby the student imitates videotaped actions/sequences from a model.

• Has been used to teach
  – Play skills
  – Social skills
  – Communication skills
  – Adaptive skills
  – Academic skills
Video Modeling

• Procedures for implementation:
  – Teacher identifies skill to be targeted and clearly defines the target
  – Teacher record the target behavior
  – Teacher presents the video to the student
    • Can be viewed on a computer, Ipad, Iphone, etc.
  – Student imitates action without prompting
  – Teacher records data on number of steps completed correctly
• Example
  https://www.youtube.com/watch?v=V2t-ihJJNXI
Video Modeling

• Types of Video Modeling
  – **Basic Video Modeling** – 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** – used to record the learner displaying the target skill or behavior and is viewed later.
  – **Point-of-view Video Modeling** – when the target behavior or skill is recorded from the perspective of the learner.
  – **Video Prompting** – involves breaking the behavior skill into steps and recording each step with incorporated pauses during which the learner may attempt the step before viewing subsequent steps.
Prompting

• Prompt
  – An additional cue or extra help from the teacher to aid the student in engaging in the correct response.

• Purpose of prompting is to give the learner more opportunities to respond correctly

• Fading of prompts is necessary to ensure independent responding
Prompting

Characteristics of prompts

• Should be effective- that is, prompts should ensure that the learner will perform the correct behavior

• Prompt BEFORE the student responds – not as a correction

• Should be easy to fade
  – The goal of prompting is to teach *Independent* behavior
Prompting

Promoting Hierarchy

- Natural Cue/Independence
- Visual Prompt
- Verbal Prompt
- Gestural Prompt
- Modeling
- Partial Physical Prompt
- Full Physical Prompt

NEW skills: most to least
LEARNED skills: least to most
Prompting

- Full Physical Prompts
- Gestural Prompts
- Partial Physical Prompts
Prompting Guidelines

• Use non-verbal prompts when possible!
  – A verbal prompt is one of the **hardest to fade**

• Fade prompts **as soon as possible**!
  – Remember our goal is independent responding

• Decide if you will be using a least to most or most to least prompting hierarchy
Incidental/ Natural Teaching

- Teaching interaction that occurs in the natural environment
- Capitalize on “teachable moments”.
  - No additional material is needed
  - Capitalizes on high motivation periods
  - Facilitates generalization
  - Techniques can be applied within a broad range of activities and settings
  - Uses naturally occurring reinforcers
Story-based Intervention

• Most well known are Social Stories™
• May include other types of narratives such as comic strips
• Social Narratives can be used to:
  – Support schedule changes
  – Promote independence of daily living skills
  – Clarify expectations
  – Promote positive behavior
  – Support social interactions
Here is an example of a social narrative used within the #GameON Autism Golf program. It helps participants understand the flow of the day so that they can be more comfortable, prepared and ready to learn and have fun.

A use of visual cues are paired with words to support comprehension and to ensure applicability to all levels of learners.
Picture Exchange Communication System (PECS)

- Learner is taught to give a picture of desired item to communicative partner
- Six phases of PECS instruction, each with multiple steps building on last
  - Teaching physical exchange
  - Expanding spontaneity
  - Stimulus discrimination of pictures
  - Building sentence structure
  - Responding to “what do you want”
  - Commenting in response to question
PECS
Generalization

- Generalization - when a learner performs a learned behavior under conditions that are different from the conditions that were in place when the behavior was originally learned.
  - Different settings
  - Different people
  - Different stimuli

*A skill should not be considered mastered until it can be displayed across these things*
Generalization

Strategies:

• Practice mastered skills in different settings
• Have students work on skills with different teachers
• Use different stimuli to teach skills
• Use incidental teaching strategies
• Make the training setting as close to the target setting as possible
Maintenance

• When a student has learned a skill and continues to utilize the skill after teaching has been discontinue.
• Individuals with ASD often have difficulty maintaining and generalizing skills.
• Maintenance and generalization must be explicitly programmed for and taught.
• Skills must be practiced in order to remain in a person's repertoire.
Maintenance

• Strategies
  – Fade/thin schedule of reinforcement
  – Introduce naturally occurring reinforcers
  – Make sure to practice and/or probe that skill regularly
Critical Classroom Practices

• There are several key aspects in supporting learning within the classroom
• Teachers must establishing positive relationships with students and motivate students to learn
Establishing Positive Relationships

STUDENTS

- **Pairing!** - Establish yourself as a source of reinforcement.
- Find out what motivates your students (interests, favorites)!
- Make learning/school fun and meaningful
Maintaining Professional Teacher-Student Relationships

Treat your students the way that you would want your own child to be treated through

• Dignity
• Respect
• Kindness
• Compassion
Maintaining Professional Teacher-Student Relationships

Make sure students experience success every day and realize the importance in establishing trusting relationships.

Rapport is critical!
Maintaining Professional Teacher-Student Relationships

Refrain from

- Rough physical redirection
- Using physical intervention with a student not in a crisis
- Reactive responses to challenging behavior
- Loud or assertive directions
- Sarcastic or coercive comments

Instead use

- Verbal and gestural prompting
- Verbal or gestural prompting and reinforcement strategies
- Proactive strategies to support appropriate behavior
- Clear and direct verbal instructions
- Positive behavior specific praise
Motivate Your Students to Learn

Students with ASD may not have the same motivations as a typically developing student.
Common intrinsic motivators of typically developing students:
• To please an adult
• Social praise
• Pride in completion
• Avoid reprimand
• Because it’s fun
(Students with ASD may not have these same motivators)
Motivate Your Students to Learn

Students with ASD may require additional motivation to participate, comply, learn etc.

Reinforcement programs:

• Conditioned reinforcement
  – Dollars
  – Tokens
• Checklists
• Behavior contracts
• First-then
• DRO/ DRI
• Point/level systems
Putting it All Together

• How do we know what to teach and what strategies to use?
• How do we know how well students are responding to intervention?
• We must conduct assessments of individuals' skills.
• For all intervention programs, we must collect data.
• This information will be addressed in the next learning module.
Resources

• National Standards Project
  http://www.nationalautismcenter.org/resources/

• National Professional Development Center
  http://autismmpdc.fpg.unc.edu/evidence-based-practices

• Autism Internet Modules
  http://www.autisminternetmodules.org/