Evidence Based Practice Training

Antecedent Based Intervention

CSESA

The Center on Secondary Education for
Students with Autism Spectrum Disorders

Objectives

- Become aware of 27 EBPs identified for students with ASD
- Describe key steps to using antecedent based interventions
  - How to prepare for implementation
  - How to implement
  - How to assess progress
- Identify key pitfalls and ways to avoid them
- Identify ways to learn more about how to implement antecedent based interventions

What are EBPs?

Focused interventions that:

- Produce specific behavioral and developmental outcomes for a child

- Have been demonstrated as effective in applied research literature

- Can be successfully implemented in educational settings

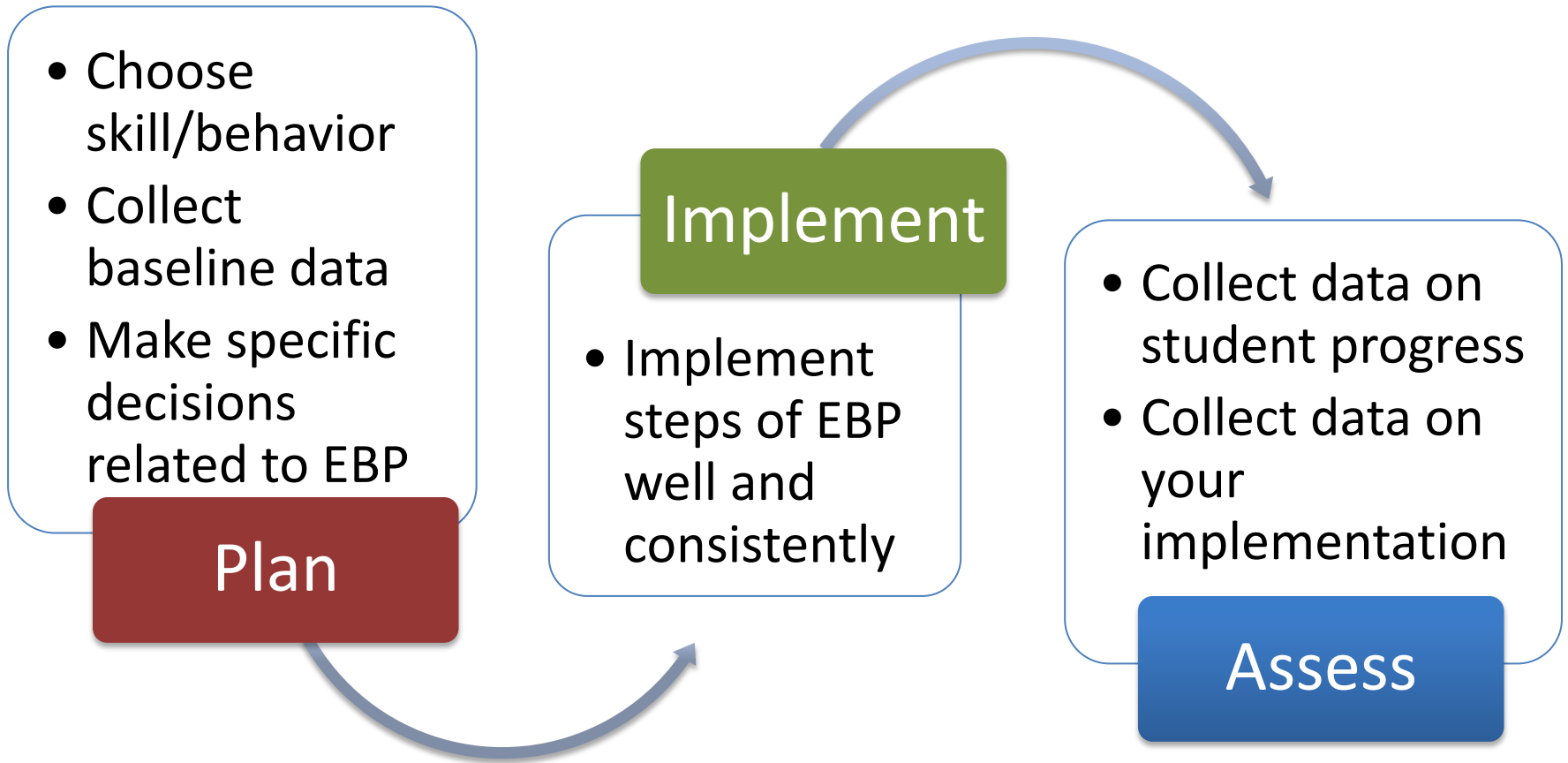(Odom, Colett-Klingenberg, Rogers, & Hatton, 2010)

Evidence – Based Practices (2014)

Antecedent-based interventions

Cognitive behavioral intervention*

Differential reinforcement

Discrete trial training

Exercise

Extinction

Functional behavior assessment

Functional communication training

Modeling

Naturalistic interventions

Parent-implemented intervention

Peer-mediated instruction/intervention

Picture Exchange Communication System™

Pivotal response training

Prompting

Reinforcement

Response interruption/redirection

Scripting

Self-management

Social narratives

Social skills training

Structured play groups

Task analysis

Technology-aided intervention/instruction

Time delay

Video modeling

Visual supports

For All EBPs

Plan
- Choose skill/behavior
- Collect baseline data
- Make specific decisions related to EBP

Implement
- Implement steps of EBP well and consistently

Assess
- Collect data on student progress
- Collect data on your implementation

Antecedent-Based Interventions (ABI)

Who uses ABI?

Definition of ABI

- The goals of ABI are to
  - **Identify factors** that are reinforcing the interfering behavior
  - **Modify the environment** or activity so that the factor no longer elicits the interfering behavior
- ABI is used
  - To **address both interfering and on-task behaviors**
  - To decrease repetitive, stereotypical, self-stimulatory, and self-injurious behaviors
  - **After a functional behavior assessment (FBA)** has been conducted to identify the function of the interfering behavior

Behaviors & Skills Addressed

a. **Interfering behaviors**

- (e.g., self-injurious, repetitive, and stereotypical behaviors)

b. **Engagement and on-task behaviors**

Types of ABI

- Common ABI procedures include

  - **Use highly preferred activities/items** to increase interest level

  - **Change the schedule/routine**

  - Implement **pre-activity interventions**

  - **Offer choices**

  - **Alter** the manner in which **instruction is provided**

  - **Enrich the environment** so that learners with ASD have **access to sensory stimuli** that serve the same function as the interfering behavior

ABI strategies often are used in conjunction with other evidence-based practices

ABI
Steps for Implementation

Step 1. *Identify the Interfering Behavior* using

- **A-B-C Data Charts**

A - Antecedent (describe the activity and specific events preceding the behavior)	B - Behavior (describe exactly what the behavior looked like)	C - Consequence (describe events that followed or results of the behavior)

- **Scatterplots**

Time	Activity	Date					

ABI
Steps for Implementation

Step 2. *Collect Baseline Data* using

- **Frequency Data Charts**

Date	Bites hand	Total	Before, during, or after reinforcement
7/26/08	XXXXXXXXXXXXX	13	Before
7/27/08	XXXXXXXXXXXXXXXX	16	Before
7/28/08	XXXXXXXXXXXXXX	14	Before
7/29/08	XXXXXXXXXXX	11	Before

- **Duration Data Charts**

Date	Start time	End Time	Total minutes	Before, during, or after reinforcement
7/26/08	9:00	9:15	15	Before
7/27/08	9:05	9:20	15	Before
7/28/08	9:00	9:13	13	Before
7/29/08	9:10	9:30	20	Before

ABI
Steps for Implementation

Step 3. *Implement ABI*

- **Identify a strategy** to address the behavior (can choose more than 1 if needed)
  - Use learner preferences
  - Change schedules/routines
  - Implement pre-activity interventions
  - Use choice-making
  - Alter how instruction is delivered, and/or
  - Enrich the environment

ABI
Steps for Implementation

Step 3. *Implement ABI*

- **Ignore interfering behavior** when it occurs
- **Provide reinforcement** for
  - ▪ Engagement in **appropriate behavior**
  - ▪ Completion of the weekly behavioral objective

ABI
Steps for Implementation

Step 3. *Implement ABI*

- Create a lesson plan

Date: *Week of 11/17/08-11/21 /08* Classroom: *Math class* Teacher: *Mrs. Banks* Learner's name: *Kenny* Interfering behavior: *Banging head on desk when asked to complete an in-class assignment*	
Objectives for this week: 1. *Kenny will complete one in-class assignment with minimal head banging (i.e., less than three times).*	
Strategy: *Altering how instruction is delivered* To implement the strategy, I will: 1. *Give Kenny written instructions for assignments rather than providing them verbally.* 2. *Modify worksheet instructions by providing Kenny with a checklist for completing the task.* 3. *Ignore Kenny when he bangs his head while also pointing to written instructions again.* 4. *Let Kenny have 10 minutes of computer time after completing an in-class assignment with minimal head banging (i.e., less than three times).*	
Materials needed: 1. *Sentence strips: "Complete these math problems." "Finish your work."* 2. *Checklists for all worksheets that need to be completed this week.*	

ABI
Steps for Implementation

Step 4. *Monitor learner progress*

- Use progress monitoring data to **evaluate whether the interfering behavior is decreasing** as result of the intervention
- Use **the same data collection sheets** used previously to collect baseline data to track learner progress
  - Use to adjust intervention strategies if the interfering behavior does not decrease

Date	Bites hand	Total	Before, during, or after reinforcement
7/26/08	XXXXXXXXXXXX	13	*Before*
7/27/08	XXXXXXXXXXXXXXX	16	*Before*
7/28/08	XXXXXXXXXXXXX	14	*Before*
7/29/08	XXXXXXXXXXX	11	*Before*
7/30/08	XXXXXXXXX	9	*During*
7/31/08	XXXXXX	6	*During*
8/01/08	XXX	3	*During*

ABI

Steps for Implementation

Step 4. *Monitor learner progress*

- Teachers/practitioners use progress monitoring data to **adjust intervention strategies** if the interfering behavior does not decrease

- If the interfering behavior is not decreasing, teachers/ practitioners must **try to identify potential reasons**

- The following questions may be helpful during this problem-solving process:
    - Is the interfering behavior well defined? That is, is it observable and measurable?
    - Are ABI strategies being implemented consistently by all staff?
    - Do the ABI strategies directly address the function of the behavior identified during the FBA?

ABI
Fidelity Checklist

Step 1. Identifying the Interfering Behavior (cont.)	Score**							
d. activities during which the behavior occurs;								
e. what other students are doing when the behavior starts;								
f. what teachers/adults are doing when the behavior starts;								
g. proximity to other students, teachers, and/or adults;								
h. the noise level in the environment;								
i. the number of individuals in the area;								
j. other environmental conditions; and								
k. the function of the behavior.								
3. Develop a hypothesis statement for the interfering behavior that includes:								

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

Video Example

What did you notice?

- Describe the teacher's interaction with the student
- Points to consider
  - Identification of needs
  - What did the ABI address?

Collecting Data
Frequency

Antecedent-Based Interventions Data Sheet: Frequency

Directions: Complete the following data collection sheet to determine how frequently a learner with ASD is engaging in a particular behavior. In the **Behavior** column, simply use tally marks to record each occurrence of the behavior.

Learner: _____

Setting	Date	Length of observation	Behavior:	Total # of times	Before, during, or after intervention

Collecting Data
Duration

Antecedent-Based Interventions Data Sheet: Duration

Directions: Complete the following data collection sheet to determine how long a learner with ASD is engaging in a particular behavior.

Learner: _____

Setting	Date	Start time	End Time	Total minutes	Before, during, or after intervention

Collecting Data
Preference Assessment

Preference Assessment Worksheet: Elementary, Middle, High School

Date: _____   Activity: _____

Learner: _____

Directions: To identify the preferences of a learner with ASD, observe him/her for at least 30 minutes during a free choice activity time (e.g., individual work time, recess, lunch, activity period). Every 2 to 5 minutes, circle the material that the learner is interacting with or looking at. If the material/toy is not listed in the following chart, please record in the blank spaces at the bottom of the page. After the observation is complete, identify which material the learner with ASD interacted with the most. Complete at least 3 observations to identify highly preferred materials. Highly preferred materials can then be incorporated into non-preferred activities to increase motivation and engagement.

Balls	Balls	Balls	Balls	Balls	Balls	Balls	Balls
Board game	Board game	Board game	Board game	Board game	Board game	Board game	Board game
Books	Books	Books	Books	Books	Books	Books	Books
Card game	Card game	Card game	Card game	Card game	Card game	Card game	Card game
Comic books	Comic books	Comic books	Comic books	Comic books	Comic books	Comic books	Comic books
Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer
Cooking	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking
Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross

Common Problems and Solutions

Problem	Solution
What are some approaches that can help me identify my student's preferences and reinforcers?	Teachers/practitioners may also take into account answers to the following questions when trying to identify learners' preferences and interests: • What makes the learner smile and laugh? • What makes the learner happy and feel good? • What kinds of things get the learner excited? • What are the learner's favorite things to do? • What does the learner work especially hard at doing? • What gets and keeps the learner's attention? • What gets the learner to try new things?
My student is showing a variety of behaviors at once in response to an event in the classroom. How can I identify what exactly is the interfering behavior?	• Conducting an FBA will be helpful in identification of interfering behaviors as well as the function of each. • This can aid in capturing the various responses the student may have in the classroom to the event. • You may choose the most prominent behavior and in the implementation of ABI start to see other potential interfering behaviors reduce in frequency

CAUTION!

Avoid

Reinforcing Interfering Behavior

The Key to Effective ABI

- ABI strategies are implemented consistently by all staff

- ABI strategies directly address the function of the behavior identified during the **FBA**

To Learn More…

Find additional information on ABI and other Evidence Based Practices within the following resources.

Evidence-based Practice Resources

- EBP literature review http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/2014-EBP-Report.pdf
- EBP Case Studies for High School
- EBP Briefs (http://autismpdc.fpg.unc.edu)
  - Overview
  - Evidence Base
  - Steps for Implementing
  - Implementation Checklist
  - Sample Data Collection Forms (optional)
- Autism Internet Modules (http://www.autisminternetmodules.org)

EBP Case Studies for High School

http://csesa.fpg.unc.edu/resources/evidence-based-practices-case-studies

Example: Step-by-Step Directions

Step 1. Identifying and Setting Up the Device

In Step 1, teachers/practitioners focus on identifying an appropriate SGD device for the learner with ASD by taking into account a number of factors including learner needs and characteristics, and available training and technical assistance.

1. Teachers/practitioners select an appropriate device, taking into account how the information is displayed, the learner's present and potential abilities (e.g., attention span, experience with symbols, ability to establish joint attention), portability of the device, available training and technical assistance, and funding sources.

Teachers/practitioners also choose a number of symbols in the visual field that the learner will be able to discriminate easily by considering the learner's attention span, experience with symbols, and ability to establish joint attention (Ogletree & Harn, 2001).

2. Teachers/practitioners introduce the device to the learner by having a device with few symbols and/or buttons with nothing on them.

To begin, teachers/practitioners introduce a single symbol and have buttons with nothing on them to introduce the idea that the symbol, not the button, is the important factor.
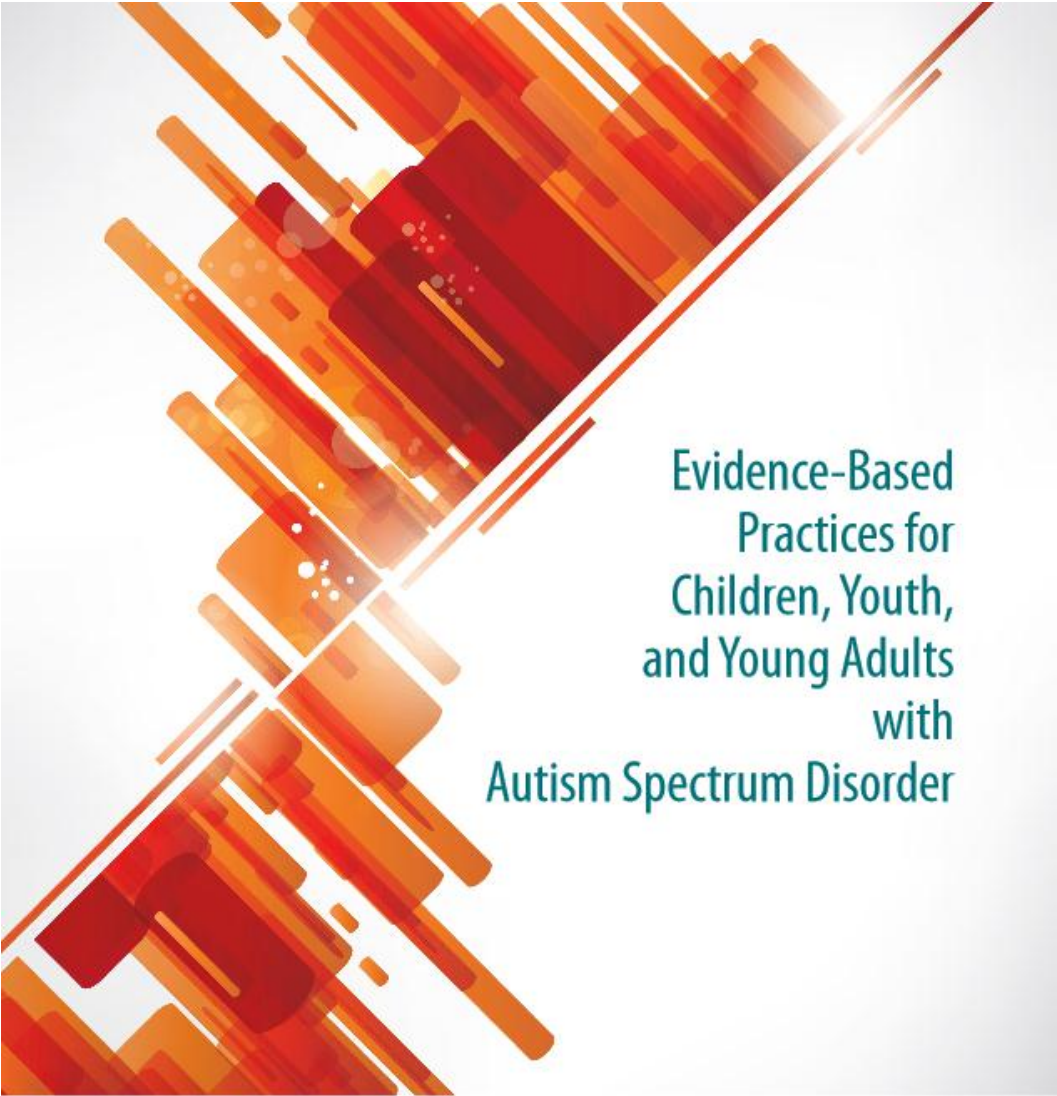
3. Teachers/practitioners include desirable and undesirable symbols to facilitate the learner's ability to discriminate.

Example: Implementation Checklist

	Observation	1	2	3	4	5	6	7	8
	Date	6/14/11							
	Observer's Initials	AC							
Planning (Steps 1 – 5)									
Step 1. Identifying and Setting Up the Device		**Score****							
1. Select an appropriate device, taking into account how the information is displayed, the learner's present and potential abilities (e.g., attention span, experience with symbols, ability to establish joint attention), portability of the device, available training and technical assistance, and funding sources.		**2**							
1. Introduce the device to the learner by having a device with few symbols and/or buttons with nothing on them.		**2**							
1. Include desirable and undesirable symbols to facilitate the learner's ability to discriminate.		**0**							
Step 2. Introducing Direct Support Persons to the Device									
1. Team members are identified and trained in how to program and use the device.		**2**							
1. One or two key members of the team are identified as primary contacts regarding its use.		**0**							

**Scoring Key: 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable

EBP Literature Review

Evidence-Based
Practices for
Children, Youth,
and Young Adults
with
Autism Spectrum Disorder

Connie Wong, Samuel L. Odom,
Kara Hume, Ann W. Cox, Angel Fettig,
Suzanne Kucharczyk, Matthew E. Brock,
Joshua B. Plavnick, Veronica P. Fleury, and Tia R. Schultz

Autism Evidence-Based Practice Review Group
Frank Porter Graham Child Development Institute
University of North Carolina at Chapel Hill

Autism Internet Modules

- http://www.autisminternetmodules.org/

Action Plan

What will I do tomorrow:

1.

2.

3.

Questions