



Autism Focused Intervention
Resources & Modules

Antecedent-based Intervention (ABI) ---EBP Brief Packet---

Components of the EBP Brief Packet...

This evidence-based practice overview on antecedent-based intervention (ABI) includes the following components:

1. **Overview:** A quick summary of salient features of the practice, including what it is, who it can be used with, what skills it has been used with, and settings for instruction.
2. **Evidence-base:** The *ABI Evidence-base* details the NPDC criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for this practice.
3. **Step-by-Step Guide:** Use the *ABI Step-by-Step Practice Guide* as an outline for how to plan for, use, and monitor ABI. Each step includes a brief description as a helpful reminder while learning the process.
4. **Implementation Checklist:** Use the *ABI Implementation Checklist* to determine if the practice is being implemented as intended.
5. **Data Collection Sheets:** Use the data collection sheets as a method to collect and analyze data to determine if progress is being made for a learner with ASD.
6. **Tip Sheet for Professionals:** Use the *ABI Tip Sheet for Professionals* as a supplemental resource to help provide basic information about the practice to professionals working with the learner with ASD.
7. **Parent Guide:** Use the *ABI Parent Guide* to help parents or family members understand basic information about the practice being used with their child.
8. **Additional Resources:** Use the *Additional Resources* to learn more about the practice.
9. **CEC Standards:** A list of *CEC Standards* that apply specifically to ABI.
10. **Module References:** A list of numerical *References* utilized for the ABI module.

Suggested citation:

Sam, A., & AFIRM Team. (2016). *Antecedent-based intervention*. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorder, FPG Child Development Center, University of North Carolina. Retrieved from <http://afirm.fpg.unc.edu/antecedent-based-intervention>

This overview
brief will
support your
use of the
evidence-
based practice:
Antecedent-
based
Intervention.

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information visit:**
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What is Antecedent-based Intervention?

Derived from applied behavior analysis, antecedent-based interventions (ABI) are used to address both interfering behaviors (e.g. repetitive, disruptive) and on-task behaviors (e.g. engaged or working on specific task/activity) behaviors. ABI is commonly used with other evidence-based practices such as functional behavior assessment (FBA), extinction (EXT), and reinforcement (R+).

With ABI, teachers and practitioners focus on identifying the events that take place immediately *before* and *after* an identified interfering behavior. The identification of both before and after events, allows for teachers and practitioners to identify the conditions or events within the environment that prompt the learner to exhibit the identified behavior (i.e., antecedents) and the conditions or events that are reinforcing the behavior after it occurs (i.e., consequences).

Evidence-base

Based upon the recent review, antecedent-based intervention meets the evidence-based practice criteria with 32 single case design studies. The practice has been effective for preschoolers (3-5 years) to high school learners (15-22 years) with ASD. Evidence-based practices (EBP) and studies included in the 2014 EBP report detailed how antecedent-based intervention can be used effectively to address: social, communication, behavior, school-readiness, play, motor, adaptive, and academic outcomes.

How is ABI Being Used?

Antecedent-based intervention can be used by a variety of professionals, including teachers, special educators, therapists, paraprofessionals, and early interventionists in educational and community-based environments. Parents and family members also can use antecedent-based intervention in the home.

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---Evidence-base for Antecedent-based Intervention---

The National Professional Development Center on ASD has adopted the following criteria to determine if a practice is evidence-based. The EBP Report provides more information about the review process (Wong et al., 2014).

Efficacy must be established through high quality, peer-reviewed research in scientific journals using:

- randomized or quasi-experimental design studies (two high quality experimental or quasi-experimental group design studies),
- single-subject design studies (three different investigators or research groups must have conducted five high quality single subject design studies), or
- combination of evidence [one high quality randomized or quasi-experimental group design study and three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies)].

--OVERVIEW--

Antecedent-based intervention is an evidence-based practice used to decrease interfering behavior and increase on-task behaviors. ABI meets the evidence-based practice criteria with 32 single case design studies. The practice has been effective with learners in early intervention (0-2 years) to high school learners (15-22 years). Studies included in the 2014 EBP report detailed how antecedent-based intervention can be used effectively to address: behavior, play, social, communication, school readiness, adaptive, academic, and motor outcomes.

In the table below, the outcomes identified by the evidence base are shown by age of participants.

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
	Social	Social	Social	Social
	Communication	Communication	Communication	Communication
Behavior	Behavior	Behavior	Behavior	Behavior
	School-Readiness	School-Readiness	School-Readiness	
Play	Play	Play		
		Motor		
	Adaptive	Adaptive	Adaptive	
	Academic	Academic		Academic

Early intervention (0-2 years)

Reinhartsen, D. B., Garfinkle, A. N., & Wolery, M. (2002). Engagement with toys in two-year-old children with autism: Teacher selection versus child choice. *Research and Practice for Persons with Severe Disabilities, 27*(3), 175-187. doi: 10.2511/rpsd.27.3.175

Preschool (3-5 years)

- *Cale, S. I., Carr, E. G., Blakeley-Smith, A., & Owen-DeSchryver, J. S. (2009). Context-based assessment and intervention for problem behavior in children with autism spectrum disorder. *Behavior modification, 33*(6), 707-742. doi: 10.1177/0145445509340775
- *Carter, C. M. (2001). Using choice with game play to increase language skills and interactive behaviors in children with autism. *Journal of Positive Behavior Interventions, 3*(3), 131-151. doi: 10.1177/109830070100300302
- Dunlap, G., & Plien, A. J. (1991). The influence of task size on the unsupervised task performance of students with developmental disabilities. *Education and Treatment of Children, 14*(2), 85-95.
- *Koegel, L. K., Koegel, R. L., Frea, W., & Green-Hopkins, I. (2003). Priming as a method of coordinating educational services for students with autism. *Language, Speech, and Hearing Services in Schools, 34*(3), 228. doi: 10.1044/0161-1461(2003/019)
- *Rapp, J. T., Vollmer, T. R., Peter, C., Dozier, C. L., & Cotnoir, N. M. (2004). Analysis of response allocation in individuals with multiple forms of stereotyped behavior. *Journal of Applied Behavior Analysis, 37*(4), 481-501. doi: 10.1901/jaba.2004.37-481
- *Rispoli, M., O'Reilly, M., Lang, R., Machalicek, W., Davis, T., Lancioni, G., & Sigafos, J. (2011a). Effects of motivating operations on problem and academic behavior in classrooms. *Journal of Applied Behavior Analysis, 44*(1), 187-192. doi: 10.1901/jaba.2011.44-187
- *Rispoli, M. J., O'Reilly, M. F., Sigafos, J., Lang, R., Kang, S., Lancioni, G., & Parker, R. (2011b). Effects of pre-session satiation on challenging behavior and academic engagement for children with autism during classroom instruction. *Education and Training in Autism and Developmental Disabilities, 46*(4), 607.
- *Schreibman, L., Whalen, C., & Stahmer, A. C. (2000). The use of video priming to reduce disruptive transition behavior in children with autism. *Journal of Positive Behavior Interventions, 2*(1), 3-11. doi: 10.1177/109830070000200102
- *Taylor, B. A., Hoch, H., Potter, B., Rodriguez, A., Spinnato, D., & Kalaigian, M. (2005). Manipulating establishing operations to promote initiations toward peers in children with autism. *Research in Developmental Disabilities, 26*(4), 385-392. doi: 10.1016/j.ridd.2004.11.003

Elementary (6-11 years)

- Adcock, J., & Cuvo, A. J. (2009). Enhancing learning for children with autism spectrum disorders in regular education by instructional modifications. *Research in Autism Spectrum Disorders, 3*(2), 319-328. doi: 10.1016/j.rasd.2008.07.004
- *Cale, S. I., Carr, E. G., Blakeley-Smith, A., & Owen-DeSchryver, J. S. (2009). Context-based assessment and intervention for problem behavior in children with autism spectrum disorder. *Behavior modification, 33*(6), 707-742. doi: 10.1177/0145445509340775
- *Carter, C. M. (2001). Using choice with game play to increase language skills and interactive behaviors in children with autism. *Journal of Positive Behavior Interventions, 3*(3), 131-151. doi: 10.1177/109830070100300302
- Conroy, M. A., Asmus, J. M., Sellers, J. A., & Ladwig, C. N. (2005). The use of an antecedent-based intervention to decrease stereotypic behavior in a general education classroom: A case study. *Focus on Autism and Other Developmental Disabilities, 20*(4), 223-230. doi: 10.1177/10883576050200040401
- Dudley, L. L., Johnson, C., & Barnes, R. S. (2002). Decreasing rumination using a starchy food satiation procedure. *Behavioral Interventions, 17*(1), 21-29. doi: 10.1002/bin.104
- Dyer, K., Dunlap, G., & Winterling, V. (1990). Effects of choice making on the serious problem behaviors of students with severe handicaps. *Journal of Applied Behavior Analysis, 23*(4), 515-524. doi: 10.1901/jaba.1990.23-515
- Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities, 25*(3), 295-307. doi: 10.1016/j.ridd.2003.08.002
- Hagopian, L. P., & Toole, L. M. (2009). Effects of response blocking and competing stimuli on stereotypic behavior. *Behavioral Interventions, 24*(2), 117-125. doi: 10.1002/bin.278
- Haley, J. L., Heick, P. F., & Luiselli, J. K. (2010). Use of an antecedent intervention to decrease vocal stereotypy of a student with autism in the general education classroom. *Child & Family Behavior Therapy, 32*(4), 311-321. doi: 10.1080/07317107.2010.515527
- Kliebert, M. L., & Tiger, J. H. (2011). Direct and distal effects of noncontingent juice on rumination exhibited by a child with autism. *Journal of Applied Behavior Analysis, 44*(4), 955-959. doi: 10.1901/jaba.2011.44-955
- Ladd, M. V., Luiselli, J. K., & Baker, L. (2009). Continuous access to competing stimulation as intervention for self-injurious skin picking in a child with autism. *Child & Family Behavior Therapy, 31*(1), 54-60. doi: 10.1080/07317100802701400
- O'Connor, A. S., Prieto, J., Hoffmann, B., DeQuinzio, J. A., & Taylor, B. A. (2011). A stimulus control procedure to decrease motor and vocal stereotypy. *Behavioral Interventions, 26*(3), 231-242. doi: 10.1002/bin.335

Elementary (6-11 years continued)

- *Rapp, J. T., Vollmer, T. R., Peter, C., Dozier, C. L., & Cotnoir, N. M. (2004). Analysis of response allocation in individuals with multiple forms of stereotyped behavior. *Journal of Applied Behavior Analysis, 37*(4), 481-501. doi: 10.1901/jaba.2004.37-481
- *Rispoli, M., O'Reilly, M., Lang, R., Machalicek, W., Davis, T., Lancioni, G., & Sigafoos, J. (2011a). Effects of motivating operations on problem and academic behavior in classrooms. *Journal of Applied Behavior Analysis, 44*(1), 187-192. doi: 10.1901/jaba.2011.44-187
- *Rispoli, M. J., O'Reilly, M. F., Sigafoos, J., Lang, R., Kang, S., Lancioni, G., & Parker, R. (2011b). Effects of pre-session satiation on challenging behavior and academic engagement for children with autism during classroom instruction. *Education and Training in Autism and Developmental Disabilities, 46*(4), 607.
- Roane, H. S., Kelly, M. L., & Fisher, W. W. (2003). The effects of noncontingent access to food on the rate of object mouthing across three settings. *Journal of Applied Behavior Analysis, 36*(4), 579-582. doi: 10.1901/jaba.2003.36-579
- *Schreibman, L., Whalen, C., & Stahmer, A. C. (2000). The use of video priming to reduce disruptive transition behavior in children with autism. *Journal of Positive Behavior Interventions, 2*(1), 3-11. doi: 10.1177/109830070000200102
- Stichter, J. P., Randolph, J. K., Kay, D., & Gage, N. (2009). The use of structural analysis to develop antecedent-based interventions for students with autism. *Journal of Autism and Developmental Disorders, 39*(6), 883-896. doi: 10.1007/s10803-009-0693-8
- *Taylor, B. A., Hoch, H., Potter, B., Rodriguez, A., Spinnato, D., & Kalaigian, M. (2005). Manipulating establishing operations to promote initiations toward peers in children with autism. *Research in Developmental Disabilities, 26*(4), 385-392. doi: 10.1016/j.ridd.2004.11.003

Middle (12-14 years)

- Ahearn, W. H. (2003). Using simultaneous presentation to increase vegetable consumption in a mildly selective child with autism. *Journal of Applied Behavior Analysis, 36*(3), 361-365. doi: 10.1901/jaba.2003.36-361
- Butler, L. R., & Luiselli, J. K. (2007). Escape-maintained problem behavior in a child with autism antecedent functional analysis and intervention evaluation of noncontingent escape and instructional fading. *Journal of Positive Behavior Interventions, 9*(4), 195-202. doi: 10.1177/10983007070090040201
- Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities, 25*(3), 295-307. doi: 10.1016/j.ridd.2003.08.002
- Mason, S. A., & Newsom, C. D. (1990). The application of sensory change to reduce stereotyped behavior. *Research in Developmental Disabilities, 11*(3), 257-271. doi: 10.1016/0891-4222(90)90012-W

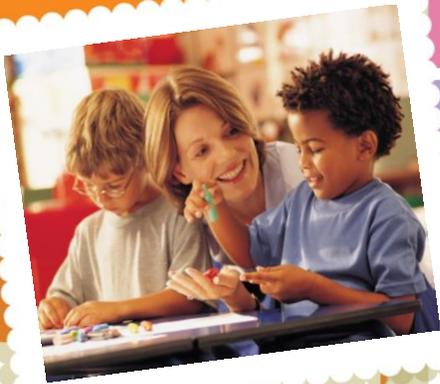
Middle (12-14 years continued)

- *Taylor, B. A., Hoch, H., Potter, B., Rodriguez, A., Spinnato, D., & Kalaigian, M. (2005). Manipulating establishing operations to promote initiations toward peers in children with autism. *Research in Developmental Disabilities, 26*(4), 385-392. doi: 10.1016/j.ridd.2004.11.003
- *Tiger, J. H., Fisher, W. W., Toussaint, K. A., & Kodak, T. (2009). Progressing from initially ambiguous functional analyses: Three case examples. *Research in developmental disabilities, 30*(5), 910-926. doi: 10.1016/j.ridd.2009.01.005

High (15-22 years)

- Ebanks, M. E., & Fisher, W. W. (2003). Altering the timing of academic prompts to treat destructive behavior maintained by escape. *Journal of Applied Behavior Analysis, 36*(3), 355-359. doi: 10.1901/jaba.2003.36-355
- Kennedy, C. H. (1994). Manipulating antecedent conditions to alter the stimulus control of problem behavior. *Journal of Applied Behavior Analysis, 27*(1), 161-170. doi: 10.1901/jaba.1994.27-161
- *Koegel, L. K., Koegel, R. L., Frea, W., & Green-Hopkins, I. (2003). Priming as a method of coordinating educational services for students with autism. *Language, Speech, and Hearing Services in Schools, 34*(3), 228. doi: 10.1044/0161-1461(2003/019)
- Mason, S. A., & Newsom, C. D. (1990). The application of sensory change to reduce stereotyped behavior. *Research in Developmental Disabilities, 11*(3), 257-271. doi: 10.1016/0891-4222(90)90012-W
- Piazza, C. C., Hanley, G. P., & Fisher, W. W. (1996). Functional analysis and treatment of cigarette pica. *Journal of Applied Behavior Analysis, 29*(4), 437-450. doi: 10.1901/jaba.1996.29-437
- Sigafoos, J., Green, V. A., Payne, D., O'Reilly, M. F., & Lancioni, G. E. (2009). A classroom-based antecedent intervention reduces obsessive-repetitive behavior in an adolescent with autism. *Clinical Case Studies, 8*(1), 3-13. doi: 10.1177/1534650108327475
- *Tiger, J. H., Fisher, W. W., Toussaint, K. A., & Kodak, T. (2009). Progressing from initially ambiguous functional analyses: Three case examples. *Research in developmental disabilities, 30*(5), 910-926. doi: 10.1016/j.ridd.2009.01.005
- Walpole, C. W., Roscoe, E. M., & Dube, W. V. (2007). Use of a differential observing response to expand restricted stimulus control. *Journal of Applied Behavior Analysis, 40*(4), 707-712. doi: 10.1901/jaba.2007.707-712

* Research which included participants in multiple age ranges.



Antecedent-based Intervention (ABI) ---Step-by-Step Guide---

BEFORE YOU START...

Each of the following points is important to address so that you can be sure the selected EBP is likely to address the learning needs of your student.

Have you found out more information about...?

- Identified the behavior...
- Collected baseline data through direct observation...
- Established a goal or outcome that clearly states when the behavior will occur, what the target skill is, and how the team will know when the skill is mastered...

If the answer to any of these is “no,” review the process of how to select an EBP.

This practice guide outlines how to plan for, use, and monitor the practice of antecedent-based interventions.

Keep in mind that ABI can be used to decrease interfering behaviors and increase engagement.

Now you are ready to start...

Step 1: ABI Planning

The planning step explains initial considerations involved in preparing to use ABI. Be sure to use a functional behavior assessment (FBA) to identify and define the interfering behavior.

1.1 Identify and define interfering behavior through an FBA

To assist in identifying a behavior that interferes with learning and/or development, team members should complete a functional behavior assessment (FBA). For more information, visit the Functional Behavior Assessment module.

1.2 Collect data using direct observation methods

To collect data on the interfering behavior, team members should use A-B-C data charts. A-B-C data charts help team members identify what happens directly before the behavior (antecedent), describe the behavior, and determine what happens directly after the behavior (consequence).

 Use the **ABC Data Chart** to understand why the learner might be engaging in the identified interfering behavior.

1.3 Review data collected from direct observations

Data tables (commonly referred to as scatterplots in the FBA literature) can be used to help teams determine possible functions of the behavior, when the behavior is occurring, and times of the day when an intervention might be implemented to reduce the interfering behavior.

 Use the **ABI Data Table and Anecdotal Note** form to identify patterns.

1.4 Develop a hypothesis statement and overall goal

Based upon the information gathered, the team develops a hypothesis statement that includes the following:

- The setting events, immediate antecedents, and immediate consequences that surround the interfering behavior.
- A restatement and refinement of the description of the interfering behavior that is occurring.
- The function the behavior serves (i.e., get/obtain, escape/avoid).

 Use the **ABI Planning Sheet** to develop a hypothesis and goal.

Step 2: Using ABI

This section describes the process of implementing ABI through selecting an ABI strategy that addresses the function of the behavior.

2.1 Select ABI strategy that addresses the function of the interfering behavior

Based upon information gathered from the FBA and planning step, team members identify an ABI strategy that will address the function of the interfering behaviors (Kern & Clemens, 2007). Possible ABI strategies include:

- Using learner preferences (include highly-preferred items within a non-preferred activities to prevent learners from wanting to escape or avoid the activity);
- Changing schedules/routines (create predictable schedules/routines and use visual supports);
- Implementing pre-activity interventions (provide learners with information they need to participate in an activity or routine);
- Using choice-making (offer choices to increase learners control of a situation);
- Altering how instruction is delivered (adapt or modify instruction in order to promote active participation and engagement with classroom materials and activities); or
- Enriching the environment with sensory stimuli (provide access to preferred sensory stimuli).

2.2 Create lesson plan that includes selected ABI strategy

Develop lesson plans that include the following components to ensure the selected antecedent-based intervention strategy is included:

- Weekly objectives for the learner with ASD that will lead to a decrease in an interfering behavior,
- A statement of the strategy and what the teachers/practitioners will do, and
- The materials needed to implement the antecedent-based intervention strategy.



*Use the **ABI Lesson Plan** to develop a lesson plan using ABI.*

2.3 Ignore interfering behavior

Teachers and practitioners should not provide reinforcement for the identified interfering behavior when it occurs. For more information on extinction, check out the Extinction brief.

2.4 Provide learner with reinforcement

To promote appropriate behavior, remember to provide reinforcement each time the learner does not engage in the interfering behavior and completes the weekly objective.

Step 3: Monitoring ABI

The following process describes how the use of ABI can be monitored and how to determine if next steps based on the data.

3.1 Collect and analyze data on interfering behavior

Measure a learner's engagement in the interfering behavior by collecting frequency data and/or duration data.

 Use the *ABI Event Sampling Form* or *ABI Duration Data* to monitor behaviors.

3.2 Determine next steps based on learner progress

Collecting data will help team members determine if a learner is making progress and reducing the use of the identified interfering behavior. If a learner is making progress based upon data collected, team members should continue to use the selected strategies.

If the learner with ASD is not showing progress with the selected strategies and evidence-based practices, ask yourself the following questions:

- Is the behavior well defined?
- Is the behavior measurable and observable?
- Did a functional behavior assessment (FBA) indicate the function of the behavior?
- Are the ABI strategies addressing the function of the interfering behavior?
- Are team members ignoring the interfering behaviors?
- Are team members providing the learner with reinforcement?

If these issues have been addressed and the learner continues to exhibit high rates of the interfering behavior, consider selecting a different EBP or strategy to use with the learner.

Antecedent-based Interventions (ABI) ---Implementation Checklist---

To find out more information about...

- Establishing a goal or outcome that clearly states when the behavior will occur, what the target skill is, and how the team will know when the skill is mastered.
- Identifying evidence-based practices

Refer to the "Selecting EBPs" section on the website: afirm.fpg.unc.edu

	Observation	1	2	3	4
	Date				
	Observer's Initials				
Step 1: Planning					
1.1 Identify and define interfering behavior through an FBA.					
1.2 Collect data using direct observation methods.					
1.3 Review data collected from direct observations.					
1.4 Develop a hypothesis statement and an overall goal.					
Step 2: Using					
2.1 Select an ABI strategy that addresses the function of the interfering behavior.					
<input type="checkbox"/> Using learner preferences					
<input type="checkbox"/> Changing schedules/routines					
<input type="checkbox"/> Implementing pre-activity interventions					
<input type="checkbox"/> Using choice-making					
<input type="checkbox"/> Altering how instruction is delivered					
<input type="checkbox"/> Enriching the environment with sensory stimuli					
2.2 Create lesson plan that includes selected ABI strategy.					
2.3 Ignore interfering behavior.					
2.4 Provide learner with reinforcement.					
Step 3: Monitoring					
3.1 Collect and analyze data on interfering behavior					
3.2 Determine next steps based on learner progress					



Autism Focused Intervention Resources & Modules

---ABI Planning Worksheet---

Learner's Name: _____ Date/Time: _____

Team Members: _____

Identify features of the behavior:

Where does the behavior occur? _____

With whom does the behavior occur? _____

When does the behavior occur? _____

During what activities does the behavior occur? _____

Identify features of the environment:

What are other peers/students doing when the behavior occurs? _____

What is the proximity of other students, teachers, and/or adults when the behavior occurs? _____

Number of individuals in the area: _____

Other environmental conditions: _____

Antecedent-based Intervention

Determine the function of the behavior:

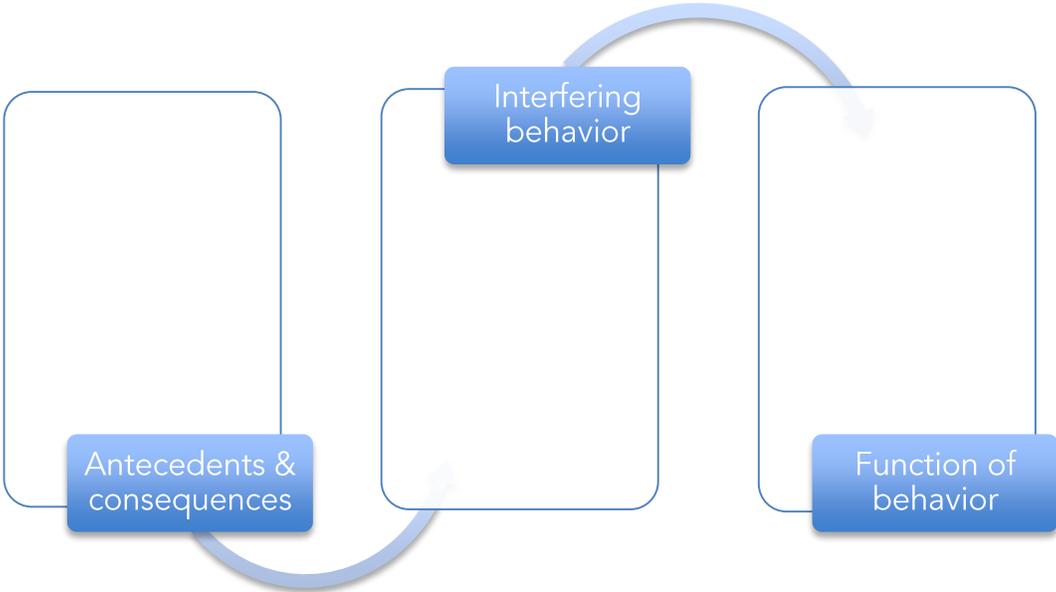
To get or obtain:

- Attention
- Food
- Toys
- Hugs
- Sensory Stimulation
- Other: _____

To escape or avoid:

- Attention
- Difficult task/activity
- Undesirable activity
- Sensory stimulation
- Social stimulation
- Other: _____

Develop a hypothesis statement:



Hypothesis statement: _____

Determine overall goal for ABI: _____

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Autism Focused Intervention Resources & Modules

---A-B-C Data Chart---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Interfering Behavior: _____

A-B-C Data Chart:

In the table below, record your observations

	Antecedent	Behavior	Consequence
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			
Date: Time:			

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Autism Focused Intervention
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---ABI Data Collection & Notes---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Interfering Behavior: _____

Data Collection:

Time	Activity	Date						

Anecdotal Notes:

Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps
Date	Observer Initials	Target Skill/Behavior, Comments, and Plans for Next Steps

**For more
information visit:**
www.afirm.fpg.unc.edu



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---ABI Lesson Plan---

Learner's Name: _____ Date/Week of: _____

Teacher(s): _____ Classroom: _____

Interfering Behavior: _____

Objective(s):

1.

2.

Strategy:

To implement this strategy, I will:

1.

2.

3.

4.

5.

Materials needed:

1.

2.

3.

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information visit:**
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---ABI Duration-Based Preference Assessment---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

At 30-second intervals, mark if the learner is engaged with the item. Repeat as needed for each item.

Item	Time (30-second intervals)									
	30	60	90	120	150	180	210	240	270	300

Identify items that the learner engaged with for at least 75% of the 30-second intervals.

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Autism Focused Intervention Resources & Modules

---ABI Preference Assessment Worksheet: Early Childhood---

Learner's Name: _____ Date/Time: _____

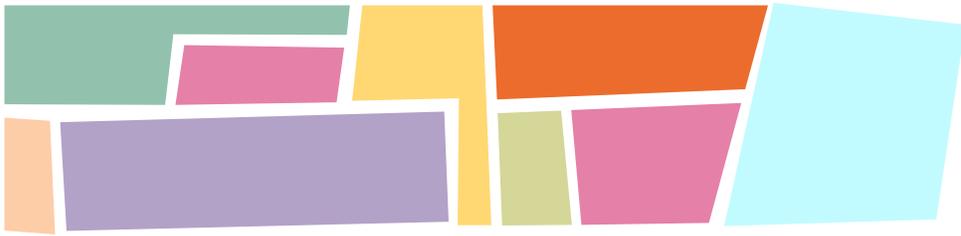
Observer(s): _____

Activity: _____

Directions:

To identify the preferences of a learner with ASD, observe him/her for at least 30 minutes during a free choice activity time. Every 2 to 5 minutes, circle the material or toy 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 chart. Complete at least 3 observations to identify highly preferred materials or toys. Highly preferred materials/toys can then be incorporated into non-preferred activities to increase motivating and engagement.

Every 2-5 Minutes										
Material /Toy	Animals	Animals	Animals	Animals	Animals	Animals	Animals	Animals	Animals	Animals
	Blocks	Blocks	Blocks	Blocks	Blocks	Blocks	Blocks	Blocks	Blocks	Blocks
	Books	Books	Books	Books	Books	Books	Books	Books	Books	Books
	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks	Bristle blocks
	Cars	Cars	Cars	Cars	Cars	Cars	Cars	Cars	Cars	Cars
	Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer
	Dolls	Dolls	Dolls	Dolls	Dolls	Dolls	Dolls	Dolls	Dolls	Dolls
	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor
	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen
	Letters	Letters	Letters	Letters	Letters	Letters	Letters	Letters	Letters	Letters
	Little people	Little people	Little people	Little people	Little people	Little people	Little people	Little people	Little people	Little people
	Playdough	Playdough	Playdough	Playdough	Playdough	Playdough	Playdough	Playdough	Playdough	Playdough
	Pop up toy	Pop up toy	Pop up toy	Pop up toy	Pop up toy	Pop up toy	Pop up toy	Pop up toy	Pop up toy	Pop up toy
	Put in toy	Put in toy	Put in toy	Put in toy	Put in toy	Put in toy	Put in toy	Put in toy	Put in toy	Put in toy
	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles
	Sensory toy	Sensory toy	Sensory toy	Sensory toy	Sensory toy	Sensory toy	Sensory toy	Sensory toy	Sensory toy	Sensory toy
	Sorting toy	Sorting toy	Sorting toy	Sorting toy	Sorting toy	Sorting toy	Sorting toy	Sorting toy	Sorting toy	Sorting toy
	Stacking toy	Stacking toy	Stacking toy	Stacking toy	Stacking toy	Stacking toy	Stacking toy	Stacking toy	Stacking toy	Stacking toy
	Swing	Swing	Swing	Swing	Swing	Swing	Swing	Swing	Swing	Swing
	Trains	Trains	Trains	Trains	Trains	Trains	Trains	Trains	Trains	Trains
Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	Water/Sand table	



Antecedent-Based Intervention

Questions to Consider (Dunst, Herter, & Shields, 2000):

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? _____

Identified Highly Preferred Materials/Toys:

**For more
information visit:**
www.afirm.fpg.unc.edu



Autism Focused Intervention Resources & Modules

---ABI Preference Assessment Worksheet: Elementary, Middle, & High School---

Learner's Name: _____ Date/Time: _____

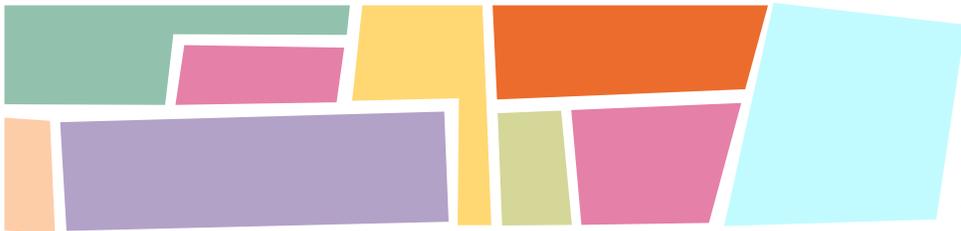
Observer(s): _____

Activity: _____

Directions:

To identify the preferences of a learner with ASD, observe him/her for at least 30 minutes during a free choice activity time. Every 2 to 5 minutes, circle the material or toy 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 chart. Complete at least 3 observations to identify highly preferred materials or toys. Highly preferred materials/toys can then be incorporated into non-preferred activities to increase motivating and engagement.

Every 2-5 Minutes										
Material / Toy	Balls	Balls	Balls	Balls	Balls	Balls	Balls	Balls	Balls	Balls
	Board game	Board game	Board game	Board game	Board game	Board game	Board game	Board game	Board game	Board game
	Books	Books	Books	Books	Books	Books	Books	Books	Books	Books
	Card game	Card game	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	Comic books	Comic books
	Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer	Computer
	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking	Cooking
	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor	Gross motor
	Paint	Paint	Paint	Paint	Paint	Paint	Paint	Paint	Paint	Paint
	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles	Puzzles
	Sand/Water	Sand/Water	Sand/Water	Sand/Water	Sand/Water	Sand/Water	Sand/Water	Sand/Water	Sand/Water	Sand/Water
	Sensory material	Sensory material	Sensory material	Sensory material	Sensory material	Sensory material	Sensory material	Sensory material	Sensory material	Sensory material
	Swing	Swing	Swing	Swing	Swing	Swing	Swing	Swing	Swing	Swing
	Writing	Writing	Writing	Writing	Writing	Writing	Writing	Writing	Writing	Writing



Antecedent-Based Intervention

Questions to Consider (Dunst, Herter, & Shields, 2000):

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? _____

Identified Highly Preferred Materials/Toys:

**For more
information visit:**
www.afirm.fpg.unc.edu



Autism Focused Intervention Resources & Modules

---ABI Steps for Identifying Instructional Adaptations Worksheet---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

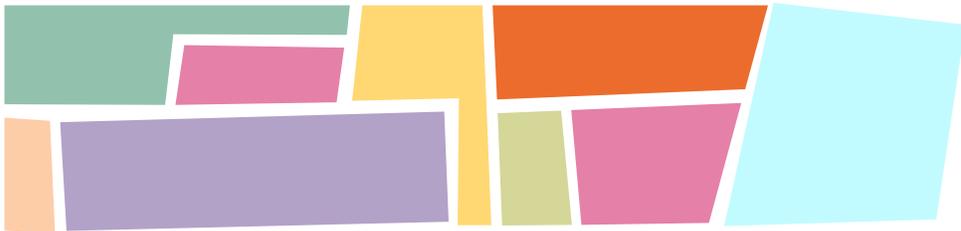
Activity: _____

Step 1: Complete an inventory of a typically developing peer completing the skill, task, or activity. As you observe a peer completing the task or activity, write down each step. For more detailed information on this process, check out the [Task Analysis](#) module.

Step 2: Observe the learner completing the skill, task, or activity. Record behaviors that are performed independently and those that are not performed independently.

Step 3: Identify behaviors that the learner with ASD cannot be expected to perform independently.

Steps	Independent	Notes
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	



Antecedent-Based Intervention

Step 4: Create a list of potential adaptations that would allow the learner with ASD to participate in the activity. This step will help identify specific instructional modifications that can help the learner participate in a specific activity and reduce interfering behavior.

Steps	Adaptation(s)

**For more
information visit:**
www.afirm.fpg.unc.edu



Autism Focused Intervention Resources & Modules

---ABI Activity Matrix---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Age Range (circle one): Early Childhood Elementary Middle High

An activity matrix is used to help teachers and team members identify daily/activities, target skills, and strategies that will promote engagement.

Directions:

Planning activities in advance can reduce or prevent the occurrence of identifying behaviors. Use the Activity Matrix table below to promote engagement across the day.

Routine/Activity	Target Skill(s)	Strategy

Adapted from: Grisham-Brown, J., Hemmeter, M. L., & Pretti-Frontczak, K. (2005). *Blended practices for teaching young children in inclusive settings*. Baltimore: Paul H. Brooks Pub. Co.

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Antecedent-based Interventions (ABI) ---Tip Sheet for Professionals---

Antecedent-based Interventions ABI

Antecedent-based Interventions...

- Are an evidence-based practice for children and youth with autism spectrum disorder (ASD) from 0-22 years old that can be implemented in multiple settings.
- Focus on identifying the events that take place immediately before and after an identified interfering behavior in order to modify the environment to change the conditions in the setting that prompt a learner to engage in the behavior.

Why Use?

- ABI are designed to prevent the identified interfering behavior from occurring.
- Team members can use ABI to increase engagement and on-task behaviors.
- ABI are easy to implement and require little additional effort by team members.

Outcomes

- The evidence-base for ABI supports the use of this practice to address the outcomes below:

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
	Social	Social	Social	Social
	Communication	Communication	Communication	Communication
Behavior	Behavior	Behavior	Behavior	Behavior
	School-Readiness	School-Readiness	School-Readiness	
Play	Play	Play		
		Motor		
	Adaptive	Adaptive	Adaptive	
	Academic	Academic		Academic



TIPS:

- Complete a functional behavior assessment (FBA) to identify a behavior that interferes with learning and the function of the behavior.
- Select an ABI strategy that addresses the functioning of the interfering behavior.
- Ignore the interfering behavior and provide reinforcement to the learner for not engaging in the interfering behavior and for completing task or activity.



Antecedent-based Interventions (ABI) ---Tip Sheet for Professionals---

Antecedent- based Interventions ABI

This tip sheet was designed as a supplemental resource to help provide basic information about the practice.

**For more
information visit:**
www.afirm.fpg.unc.edu



STEPS FOR IMPLEMENTING

1. Plan

- Identify and define interfering behavior through an FBA
- Collect data using direct observation methods.
- Review data collected from direct observations.
- Develop a hypothesis statement and an overall goal.

2. Use

- Select an ABI strategy that addresses the function of the interfering behavior. ABI strategies include:
 - Using learner preferences
 - Changing schedules/routines
 - Implementing pre-activity interventions
 - Using choice-making
 - Altering how instruction is delivered
 - Enriching the environment with sensory stimuli
- Create lesson plan that includes selected ABI strategy.
- Ignore interfering behavior.
- Provide learner with reinforcement.

3. Monitor

- Collect and analyze data on interfering behavior.
- Determine next steps based on learner progress.



Antecedent-based Interventions (ABI) ---Parent's Guide---

This introduction provides basic information about functional behavior reinforcement.

What is ABI?

- Antecedent-based interventions is an evidence based practice for children and youth with autism spectrum disorder (ASD) from 0-22 years old.
- ABI is used to make changes to the environment to decrease an identified interfering behavior and increase on-task behaviors.

Why use ABI with my child?

- Antecedent-based interventions can be used to prevent or reduce interfering behaviors and increase engagement in an activity.
- Research studies have shown that antecedent-based interventions has been used effectively with learners in early intervention, preschool, elementary school, middle school, and high school to address social, communication, behavior, school readiness, play, motor, adaptive, and academic outcomes.

What activities can I do at home?

- When your child has a challenging behavior, think about what happened before and after the behavior.
- Think of ways you can change what happens before the challenging behavior. For example, if your child refuses to brush his or her teeth, consider introducing a visual schedule to signal your child needs to brush teeth and the steps involved. Changing the environment before an activity (such as using a picture rather words) the challenging behavior may decrease.
- Remember to praise your child or provide reinforcement for completing a task or activity.

This parent introduction to ABI was designed as a supplemental resource to help answer basic questions about this practice.

To find out more about how ABI is used with your child, speak with:

**For more
information visit:**
www.afirm.fpg.unc.edu



Autism Focused Intervention
Resources & Modules

Check out
these
resources to
support your
use of
antecedent-
based
intervention.

**For more
information visit:**
www.afirm.fpg.unc.edu

---Additional Resources---

Articles:

Turner, K. S., & Johnson, C. R. (2013). Behavioral interventions to address sleep disturbances in children with autism spectrum disorders: A review. *Topics in Early Childhood Special Education, 33*(3), 144-152.

Apps:



First Then Visual Schedule HD by Good Karma Applications, INC
(\$14.99)



Pictello by AssistiveWare (\$19.99)

Websites:

IRIS Center (2016). Antecedent-based intervention. Retrieved January 22nd, 2016 from:
http://iris.peabody.vanderbilt.edu/module/fba/cresource/q3/p09/fba_09_li nk_antebased/



Autism Focused Intervention
Resources & Modules

Antecedent-based Intervention CEC Standards

The CEC Standards that apply to all 27 evidence-based practices can be found on our website at: <http://afirm.fpg.unc.edu/learn-afirm>

Below are CEC Standards that apply specifically to Antecedent-based Intervention (ABI) module.

Standard	Description
Initial Preparation Standard 2: Learning Environments	
ISCI 2 S5	Modify the learning environment to manage behaviors
ISCI 2 S10	Use effective and varied behavior management strategies
ISCI 2 S11	Use the least intensive behavior management strategy consistent with the needs of the individual with exceptionalities
Initial Preparation Standard 4: Assessment	
DDA4 K2	Assessments of environmental conditions that promote maximum performance of individuals with developmental disabilities/autism spectrum disorders
DDA4 S3	Conduct functional behavior assessments (FBA) that lead to development of behavior support plans
Initial Preparation Standard 5: Instructional Planning & Strategies	
ISCI 5 S8	Prepare lesson plans
ISCI 5 S9	Prepare and organize materials to implement daily lesson plans
DDA5 S4	Use instructional strategies that fall on a continuum of child-directed to adult-directed in natural and structured context
DDA5 S5	Consistent use of proactive strategies and positive behavioral supports
DDA5 S10	Structure the physical environment to provide optimal learning for individuals with developmental disabilities/autism spectrum disorders

Standard	Description
Advanced Preparation Standard 1: Assessment	
SEDAS1.S8	Conduct functional behavioral assessments (FBA) to determine what initiates and maintains a challenging/interfering behavior
Advanced Preparation Standard 3: Programs, Services, and Outcomes	
SEDAS3.S10	Organize the curriculum to integrate individuals' special interests and materials, activities and routines across curriculum

For more information visit:
www.afirm.fpg.unc.edu

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