

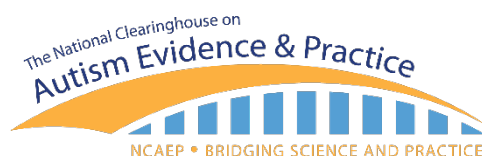


Autism Focused Intervention
Resources & Modules



EVIDENCE-BASED PRACTICE BRIEF PACKET: FUNCTIONAL BEHAVIOR ASSESSMENT

UNC Frank Porter Graham Child Development Institute
Autism Focused Intervention Resources & Modules
Sam, A. & AFIRM Team, Updated 2022



Overview of Content

FBA

1. **Table of EBP Contents:** This list details the specific EBP resources that apply to this practice.
2. **What is EBP:** A quick summary of salient features of the evidence-based practice, including what it is, who it can be used with, what skills it has been used with, and settings for instruction.
3. **Evidence-base:** The evidence-base details the National Clearinghouse on Autism Evidence and Practice (NCAEP) criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for this practice.
4. **Planning Checklist:** This checklist details the steps for planning for this practice, including what prerequisite learning of practices are needed, collecting baseline data of the target goal/behavior/skill if needed, and what materials/resources are needed.
5. **Other Resources:** Other resources may include decision trees, checklists, and/or template forms that will support the use of this practice.
6. **Step-by-Step Guide:** Use this guide as an outline for how to plan for, use, and monitor this practice. Each step includes a brief description as a helpful reminder while learning the process.
7. **Implementation Checklist:** Use this checklist to determine if this practice is being implemented as intended.
8. **Data Collection Form(s):** Use this form as a method for collecting and analyzing data to determine if the learner with autism is making progress towards the target goal/behavior/skill.
9. **Tip Sheet for Professionals:** Use this tip sheet, intended for professionals working with learners with autism, as a supplemental resource to help provide basic information about this practice.
10. **Parent Guide:** Use this guide intended for parents or family members of learners with autism to help them understand basic information about this practice and how it is being used with their child.
11. **Additional Resources:** This list provides additional information for learning more about this practice as well as resources.
12. **CEC Standards:** This list details the specific CEC standards that apply to this practice.
13. **Glossary:** This glossary contains key terms that apply specifically to this practice.
14. **References:** This list details the specific references used for developing this EBP module in numerical order.



Table of EBP Contents

Functional Behavior Assessment 4

Evidence-base 5

Decision Tree..... 8

FBA Assessment Procedures..... 9

Planning Checklist..... 10

R+ Checklist & Sampling 11

Data Collection: A-B-C 14

Data Collection: Scatterplot..... 15

Hypothesis Statement 16

Additional EBPs..... 18

Behavior Intervention Plan..... 19

Data Collection: Event Sampling 21

Data Collection: Duration (Time)..... 22

Data Collection: Duration (Bar) 23

Data Collection: Replacement Behavior..... 24

Step-by-Guide 25

Implementation Checklist..... 30

Tip Sheet for Professionals..... 31

Parent’s Guide..... 33

Additional Resources 34

CEC Standards (CEC, 2020) 35

Glossary 36

References..... 38



Functional Behavior Assessment

FBA

WHAT IS FBA?

At times, all children and youth can struggle with challenging behavior. If a challenging behavior interferes with the learner's ability to learn, then a functional behavior assessment (FBA) is needed. FBA can be used when the intensity, duration, or type of interfering behavior creates safety concerns or impacts a child's development. An FBA assists the IEP team in understanding the function or purpose of a specific interfering behavior. Data collection is an essential component of FBA.

EVIDENCE-BASE:

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), this practice is an assessment practice that meets the evidence-based practice criteria with 21 single case design studies. This practice has been effective for early intervention (0-2 years), preschoolers (3-5 years), elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) with autism. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how this practice can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, adaptive/self-help, challenging/interfering behavior, communication, and school readiness.

HOW IS THIS EBP BEING USED?

This practice 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 this practice in the home.

Suggested Citation:

Sam, A., & AFIRM Team. (2022). *Functional Behavior Assessment Brief Packet, Updated*. The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, Autism Focused Intervention Modules and Resources. <https://afirm.fpg.unc.edu/functional-behavior-assessment>

Evidence-base

FBA

The National Clearinghouse on Autism Evidence and Practice has adopted the following criteria to determine if a practice is evidence-based. The 2020 EBP report (Steinbrenner et al., 2020) provides more information about the systematic review process.

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

- At least 2 randomized or quasi-experimental group design studies, or
- At least 5 single subject/case design studies, or a
- Combination of evidence of 1 randomized or quasi-experimental group design study **and** 3 single subject/case design studies

OVERVIEW:

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), this practice is an assessment practice that meets the evidence-based practice criteria with 21 single case design studies. This practice has been effective for early intervention (0-2 years), preschoolers (3-5 years), elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) with autism. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how this practice can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, adaptive/self-help, challenging/interfering behavior, communication, and school readiness.

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

EVIDENCE-BASE						
	Academic	Adaptive	Challenging/ Interfering	Cognitive	Communication	School readiness
0-2			Yes			
3-5	Yes		Yes		Yes	Yes
6-11	Yes	Yes	Yes	Yes	Yes	Yes
12-14			Yes		Yes	
15-18			Yes	Yes		
19-22			Yes			



EARLY INTERVENTION (0-2 YEARS):

- *Dunlap, G., & Fox, L. (1999). A demonstration of behavioral support for young children with autism. *Journal of Positive Behavior Interventions*, 1(2), 77-87. <https://doi.org/10.1177/109830079900100202>
- *Robertson, R. E., Wehby, J. H., & King, S. M. (2013). Increased parent reinforcement of spontaneous requests in children with autism spectrum disorder: effects on problem behavior. *Research in Developmental Disabilities*, 34(3), 1069-82. <https://doi.org/10.1016/j.ridd.2012.12.011>

PRESCHOOL (3-5 YEARS):

- Blair, K. C., Lee, I., Cho, S., & Dunlap, G. (2011). Positive behavior support through family-school collaboration for young children with autism. *Topics in Early Childhood Special Education*, 31(1), 22-36. <https://doi.org/10.1177/0271121410377510>
- *Dunlap, G., & Fox, L. (1999). A demonstration of behavioral support for young children with autism. *Journal of Positive Behavior Interventions*, 1(2), 77-87. <https://doi.org/10.1177/109830079900100202>
- *Kodak, T., Fisher, W. W., Clements, A., Paden, A. R., & Dickes, N. R. (2011). Functional assessment of instructional variables: Linking assessment and treatment. *Research in Autism Spectrum Disorders*, 5(3), 1059-1077. <https://doi.org/10.1016/j.rautism.2010.11.012>
- *Leon, Y., Lazarchick, W. N., Rooker, G. W., & DeLeon, I. G. (2013). Assessment of problem behavior evoked by disruption of ritualistic toy arrangements in a child with autism. *Journal of Applied Behavior Analysis*, 46(2), 507-11. <https://doi.org/10.1002/jaba.41>
- Lucyshyn, J. M., Albin, R. W., Horner, R. H., Mann, J. C., Mann, J. A., & Wadsworth, G. (2007). Family implementation of positive behavior support for a child with autism: Longitudinal, single-case, experimental, and descriptive replication and extension. *Journal of Positive Behavior Interventions*, 9(3), 131-150. <https://doi.org/10.1177/10983007070090030201>
- *Robertson, R. E., Wehby, J. H., & King, S. M. (2013). Increased parent reinforcement of spontaneous requests in children with autism spectrum disorder: effects on problem behavior. *Research in Developmental Disabilities*, 34(3), 1069-82. <https://doi.org/10.1016/j.ridd.2012.12.011>
- *Strain, P. S., Wilson, K., & Dunlap, G. (2011). Prevent-teach-reinforce: Addressing problem behaviors of students with autism in general education classrooms. *Behavioral Disorders-Journal of the Council for Children with Behavioral Disorders*, 36(3), 160-171. <https://doi.org/10.1177/019874291003600302>

ELEMENTARY SCHOOL (6-11 YEARS):

- Blair, K. S. C., Umbreit, J., Dunlap, G., & Jung, G. (2007). Promoting inclusion and peer participation through assessment-based intervention. *Topics in Early Childhood Special Education*, 27(3), 134-147. <https://doi.org/10.1177/02711214070270030401>
- Camacho, R., Anderson, A., Moore, D. W., & Furlonger, B. (2014). Conducting a function-based intervention in a school setting to reduce inappropriate behaviour of a child with autism. *Behaviour Change*, 31(1), 65-77. <https://doi.org/10.1017/bec.2013.33>
- Devlin, S., Leader, G., & Healy, O. (2009). Comparison of behavioral intervention and sensory-integration therapy in the treatment of self-injurious behavior. *Research in Autism Spectrum Disorders*, 3(1), 223-231. <https://doi.org/10.1016/j.rautism.2008.06.004>
- Gann, C. J., Ferro, J. B., Umbreit, J., & Liaupsin, C. J. (2014). Effects of a comprehensive function-based intervention applied across multiple educational settings. *Remedial and Special Education*, 35(1), 50-60. <https://doi.org/10.1177/0741932513501088>
- *Kodak, T., Fisher, W. W., Clements, A., Paden, A. R., & Dickes, N. R. (2011). Functional assessment of instructional variables: Linking assessment and treatment. *Research in Autism Spectrum Disorders*, 5(3), 1059-1077. <https://doi.org/10.1016/j.rautism.2010.11.012>
- *Leon, Y., Lazarchick, W. N., Rooker, G. W., & DeLeon, I. G. (2013). Assessment of problem behavior evoked by disruption of ritualistic toy arrangements in a child with autism. *Journal of Applied Behavior Analysis*, 46(2), 507-11. <https://doi.org/10.1002/jaba.41>
- Majdalany, L. M., Wilder, D. A., Allgood, J., & Sturkie, L. (2017). Evaluation of a preliminary method to examine antecedent and consequent contributions to noncompliance. *Journal of Applied Behavior Analysis*, 50(1), 146-158. <https://doi.org/10.1002/jaba.353>



ELEMENTARY SCHOOL (6-11 YEARS, CONTINUED):

- McComas, J., Hoch, H., Paone, D., & El-Roy, D. (2000). Escape behavior during academic tasks: A preliminary analysis of idiosyncratic establishing operations. *Journal of Applied Behavior Analysis, 33*(4), 479-493. <https://doi.org/10.1901/jaba.2000.33-479>
- Roberts-Gwinn, M. M., Luiten, L., Derby, K. M., Johnson, T. A., & Weber, K. (2001). Identification of competing reinforcers for behavior maintained by automatic reinforcement. *Journal of Positive Behavior Interventions, 3*(2), 83-87. <https://doi.org/10.1177/109830070100300204>
- *Schmidt, J. D., Drasgow, E., Halle, J. W., Martin, C. A., & Bliss, S. A. (2014). Discrete-trial functional analysis and functional communication training with three individuals with autism and severe problem behavior. *Journal of Positive Behavior Interventions, 16*(1), 44-55. <https://doi.org/10.1177/1098300712470519>**
- *Slaton, J. D., Hanley, G. P., & Raftery, K. J. (2017). Interview informed functional analyses: A comparison of synthesized and isolated components. *Journal of Applied Behavior Analysis, 50*(2), 252-277. <https://doi.org/10.1002/jaba.384>**
- *Strain, P. S., Wilson, K., & Dunlap, G. (2011). Prevent-teach-reinforce: Addressing problem behaviors of students with autism in general education classrooms. *Behavioral Disorders-Journal of the Council for Children with Behavioral Disorders, 36*(3), 160-171. <https://doi.org/10.1177/019874291003600302>

MIDDLE SCHOOL (12-14 YEARS):

- Clarke, S., Worcester, J., Dunlap, G., Murray, M., & Bradley-Klug, K. (2002). Using multiple measures to evaluate positive behavior support: A case example. *Journal of Positive Behavior Interventions, 4*(3), 131-145. <https://doi.org/10.1177/10983007020040030201>
- Clay, C. J., Clohisy, A. M., Ball, A. M., Haider, A. F., Schmitz, B. A., & Kahng, S. (2017). Further evaluation of presentation format of competing stimuli for treatment of automatically maintained challenging behavior. *Behavior Modification, 42*(3), 382-397. <https://doi.org/10.1177/0145445517740322>**
- *Slaton, J. D., Hanley, G. P., & Raftery, K. J. (2017). Interview informed functional analyses: A comparison of synthesized and isolated components. *Journal of Applied Behavior Analysis, 50*(2), 252-277. <https://doi.org/10.1002/jaba.384>**

HIGH SCHOOL (15-18 YEARS):

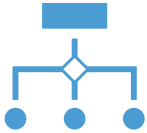
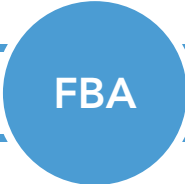
- Bruhn, A. L., Balint-Langel, K., Troughton, L., Langan, S., Lodge, K., & Kortemeyer, S. (2015). Assessing and treating stereotypical behaviors in classrooms using a functional approach. *Behavioral Disorders, 41*(1), 21-37. <https://doi.org/10.17988/0198-7429-41.1.21>**
- Rodriguez, N. M., Thompson, R. H., Schlichenmeyer, K., & Stocco, C. S. (2012). Functional analysis and treatment of arranging and ordering by individuals with an autism spectrum disorder. *Journal of Applied Behavior Analysis, 45*(1), 43852. <https://doi.org/10.1901/jaba.2012.45-1>
- *Schmidt, J. D., Drasgow, E., Halle, J. W., Martin, C. A., & Bliss, S. A. (2014). Discrete-trial functional analysis and functional communication training with three individuals with autism and severe problem behavior. *Journal of Positive Behavior Interventions, 16*(1), 44-55. <https://doi.org/10.1177/1098300712470519>**
- *Slaton, J. D., Hanley, G. P., & Raftery, K. J. (2017). Interview informed functional analyses: A comparison of synthesized and isolated components. *Journal of Applied Behavior Analysis, 50*(2), 252-277. <https://doi.org/10.1002/jaba.384>**

YOUNG ADULT (19-22 YEARS):

- O'Reilly, M. F., Edrisinha, C., Sigafoos, J., Lancioni, G., & Andrews, A. (2006). Isolating the evocative and abative effects of an establishing operation on challenging behavior. *Behavioral Interventions, 21*(3), 195-204. <https://doi.org/10.1002/bin.215>

Note: * denotes the study has participants in at least two age ranges; **new studies since 2011 (2012 till 2017) are denoted in bold**

Decision Tree



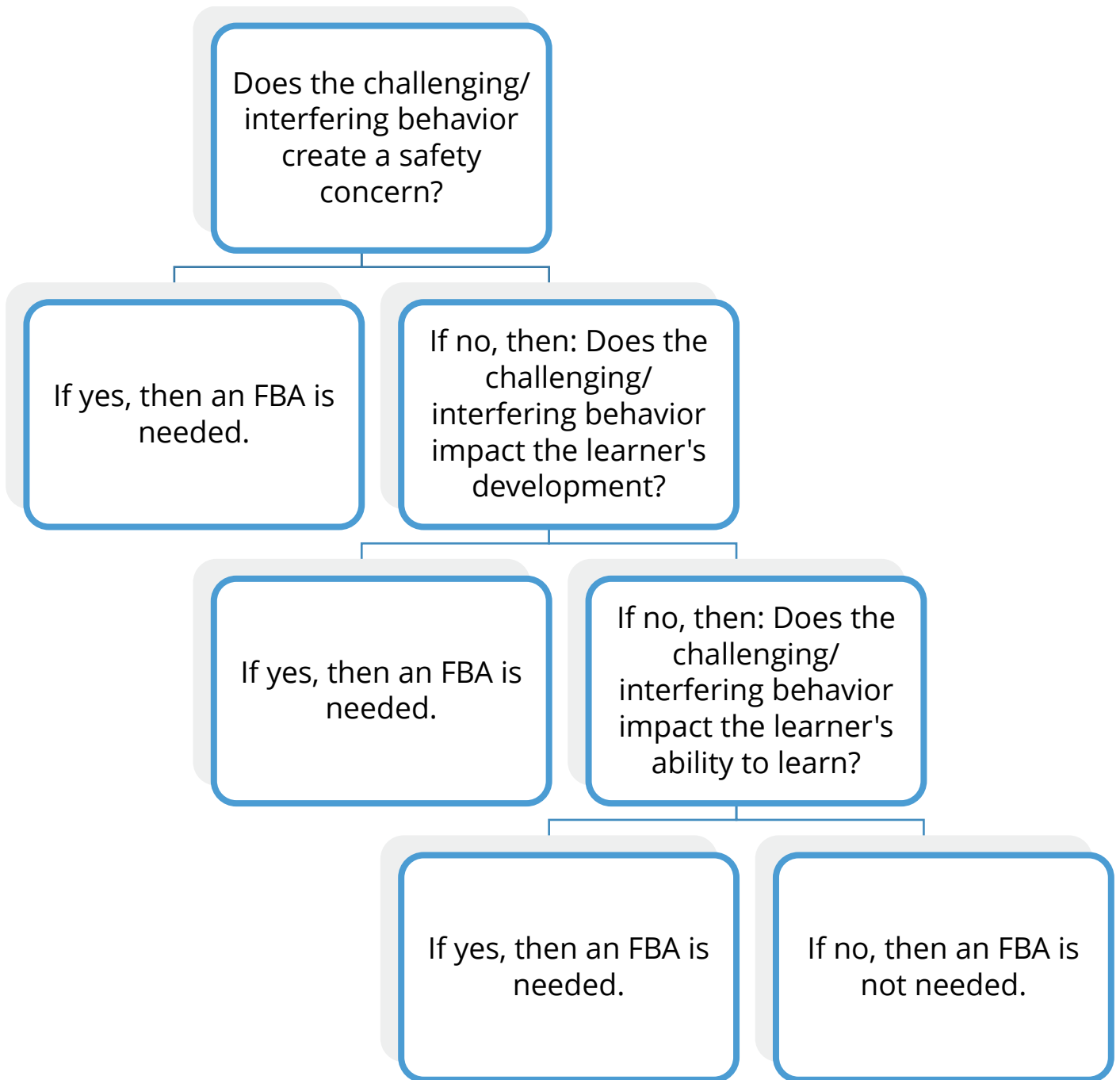
Learner's Name: _____

Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

Directions: Use this decision tree for determining if FBA is needed for the learner with autism.



FBA Assessment Procedures

FBA



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

Directions: Consider selecting one of the following assessment tools to observe the learner with autism.

Behavior Assessment System for Children (BASC-III)¹¹

Assesses for behavior functioning and identification of behavior problems (aggression, hyperactivity, conduct problems). The items are rated on 4-point scale of frequency ranging from "never" to "almost always". ~15 minutes to complete

Functional Assessment Screening Tool (FAST)¹²

Determine potential causes of the behavior. Raters answer 18 yes/no questions. Scores are placed into four categories of function ranging from social reinforcement (attention) to automatic reinforcement (pain attenuation). ~15-30 minutes to complete

Problem Behavior Questionnaire (PBQ)¹³

Determine the potential function of the behavior (e.g., access to peer attention, access to teacher attention, setting events). Raters answer 15 items and indicate frequency with which behavior occurs. ~15-30 minutes to complete

Motivation Assessment Scale (MAS)¹⁴

Identify what motivates individual learner to engage in a particular behavior. Raters are asked 16 questions about the interfering behavior and scores are added up and ranked by category of function (sensory, escape, attention, tangible). ~15-30 minutes to complete

Functional Assessment Interview (FAI)¹⁵

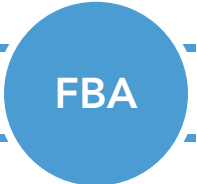
Interview teachers, parents, and other school/community staff. Provides the following outcomes: description of the interfering behavior, events or factors that predict the behavior, possible function of the behavior, and summary statements (Behavior hypothesis). ~45-90 minutes to complete

Student-Directed Functional Assessment Interview (Student-FAI)¹⁵

Used with learners who can reliably report on their behavior. ~20-40 minutes to complete



Planning Checklist



Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill (short): _____

Directions: Complete this checklist to determine if this is an appropriate practice to use with the learner with autism as well as if this practice is ready to be implemented.

DEFINE INTERFERING BEHAVIOR:

RECORDS TO REVIEW:

INTERVIEW PROCEDURES:

1.	Who will be interviewed?
2.	What interview tool will be used?
3.	Standardized Behavior Rating Scale:

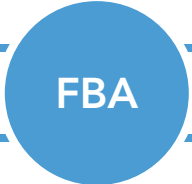
DATA COLLECTION PLAN:

1.	Setting(s):
2.	Time(s):
3.	Who will collect data?
4.	For how long and how often will data be collected?

ANECDOTAL NOTES:



R+ Checklist & Sampling



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

Directions: Use this checklist to select reinforcers/rewards based on the learner's preferred items, interests, and activities.

CONDUCT A REINFORCER SAMPLING:

1. Sit in front of the learner and hold up two items. Ask the learner to "Pick one."
2. Wait 10 seconds for the learner to indicate selection in manner that is appropriate for the learner (e.g., verbalization, pointing, using an augmentative communication device).
3. Place the selected object in a container for learner's selection and non-selected item in the not selected container.
4. Repeat steps 1 through 3 until half of the objects presented are selected.

Item 1	Selection	Item 2	Selection
	<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		<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
	<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

List:

Large empty box for listing items to be sampled.



GENERAL CHECKLIST:		
Consider...	List Potential Reinforcers	Age Appropriate
1. What natural reinforcers could be used?		<input type="checkbox"/> Yes
2. What activities, objects, and/or foods does the learner select independently?		<input type="checkbox"/> Yes
3. What phrases or gestures seem to produce a pleasant response from the learner?		<input type="checkbox"/> Yes
4. What does the learner say they would like to work for (if appropriate)?		<input type="checkbox"/> Yes
5. What reinforcers were identified by parents/family members and/or team members as being successful in the past?		<input type="checkbox"/> Yes
6. Does the learner require additional adaptations/modifications/supports? Such as visual supports or a communication device?		<input type="checkbox"/> Yes
7. Have reinforcers/rewards for the learner been identified based on the learner's interests/preferred items and/or activities?		<input type="checkbox"/> Yes
8. Are additional materials and/or resources for using this selected practice ready and available?		<input type="checkbox"/> Yes



SPECIFIC CHECKLIST:		
Foods for Snacks/Mealtime Routines:		
<input type="checkbox"/> Goldfish	<input type="checkbox"/> French Fries	<input type="checkbox"/> Ice Cream
<input type="checkbox"/> Pizza	<input type="checkbox"/> Pretzels	<input type="checkbox"/>
<input type="checkbox"/> Chicken Nuggets	<input type="checkbox"/> Chips	<input type="checkbox"/>
<input type="checkbox"/> Fruit	<input type="checkbox"/> Cheese	<input type="checkbox"/>
Games for Play/Recess Routines:		
<input type="checkbox"/> Peek-a-boo	<input type="checkbox"/> Pat-a-Cake	<input type="checkbox"/>
<input type="checkbox"/> Chase	<input type="checkbox"/> Tickle games	<input type="checkbox"/>
<input type="checkbox"/> Burrito games with a blanket	<input type="checkbox"/>	<input type="checkbox"/>
Toys for Play/Recess Routines:		
<input type="checkbox"/> Trains and Cars	<input type="checkbox"/> Computer	<input type="checkbox"/> Books
<input type="checkbox"/> Legos	<input type="checkbox"/> Puzzles	<input type="checkbox"/>
<input type="checkbox"/> Remote controls	<input type="checkbox"/> Noisy toys	<input type="checkbox"/>
<input type="checkbox"/> Phones	<input type="checkbox"/> Doll house	<input type="checkbox"/>
Special Interests for Activities/Routines:		
<input type="checkbox"/> Movie:	<input type="checkbox"/> TV Show:	<input type="checkbox"/> Real-Life Person:
<input type="checkbox"/> Movie Character:	<input type="checkbox"/> TV Show Character:	<input type="checkbox"/> Video Game:
<input type="checkbox"/> Letters	<input type="checkbox"/> Cars, Trains, Trucks	<input type="checkbox"/> Music
<input type="checkbox"/> Numbers	<input type="checkbox"/> Dinosaurs	<input type="checkbox"/> Computers/Technology
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Data Collection: Scatterplot



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Interfering Behavior: _____

Directions: Collect data on the setting and time of the learner's behavior to identify patterns.

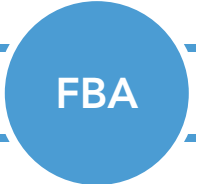
SCATTERPLOT:

Time	Activity	Date									

ANECDOTAL NOTES:



Hypothesis Statement



Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill (short): _____

Directions: Complete this checklist to determine the function of an interfering behavior.

DEFINE INTERFERING BEHAVIOR:

Blank box for defining interfering behavior.

QUESTIONS:

1.	How long has the behavior been interfering with the learner's development and learning?		
2.	Does the behavior involve aggression or damage to property?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3.	Where is the behavior occurring?		
4.	What activities is the learner participating in when the behavior occurs?		
5.	What are others (teacher, peer, practitioner) doing when the behavior occurs?		
6.	What is the proximity of others (e.g., teacher, peer, practitioner) when the behavior occurs?		
7.	What is the noise level in the environment when the behavior occurs?		
8.	How many peers and adults are present when the behavior occurs?		
9.	What other environmental conditions (e.g., lighting) are present when the behavior occurs?		



QUESTIONS:			
10.	Does the behavior occur because the learner is being asked to demonstrate a skill that he/she cannot perform (e.g., talking with peer, completing a difficult math assignment)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
11.	Does the learner exhibit other behaviors immediately before the behavior occurs (antecedents)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
12.	What happens immediately after the interfering behavior occurs (consequences)?		

DETERMINE FUNCTION OF THE BEHAVIOR:	
<p>To get or obtain:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Attention <input type="checkbox"/> Food <input type="checkbox"/> Toys <input type="checkbox"/> Hugs <input type="checkbox"/> Sensory Stimulation 	<p>To escape or avoid:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Attention <input type="checkbox"/> Difficult task/activity <input type="checkbox"/> Undesirable activity <input type="checkbox"/> Sensory stimulation <input type="checkbox"/> Social stimulation

DEVELOP HYPOTHESIS STATEMENT:		
Antecedents & Consequences		Function of behavior

HYPOTHESIS STATEMENT:

Additional EBPs

FBA



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill (short): _____

Directions: Identify evidence-based practices that can be implemented to reduce the occurrence of the identified interfering behavior based on the function of the interfering behavior.

Antecedent-Based Interventions (ABI):

Arrangement of events or circumstances that precede an activity or demand in order to increase the occurrence of a behavior or lead to the reduction of the challenging/interfering behaviors. Escape/avoid, Sensory/Autonomic

Differential Reinforcement (DR):

Systematic differential reinforcement of a desirable over an undesirable behavior that reduces the occurrence of the undesirable behavior. Attention, Escape/avoid, Sensory/Autonomic

Extinction (EXT):

A strategy based on applied behavior analysis that is used to reduce or eliminate a challenging behavior. Attention, Escape/avoid, Sensory/Autonomic, Tangible

Functional Communication Training (FCT):

A systematic practice to replace inappropriate behavior or subtle communicative acts with more appropriate and effective communicative behaviors or skills. Attention, Escape/avoid, Sensory/Autonomic, Tangible

Prompting (PP):

Any verbal, gestural, or physical assistance given to learners to support them in acquiring or engaging in a targeted behavior or skill. Attention, Escape/avoid, Sensory/Autonomic, Tangible

Response Interruption/ Redirection (RIR):

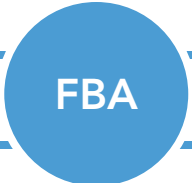
The introduction of a prompt, comment, or other distractors when an interfering behavior is occurring that is designed to divert the learner's attention away from the interfering behavior and results in its reduction. Escape/avoid, Sensory/Autonomic

Visual Supports (VS):

Any visual display that supports the learner engaging in a desired behavior or skills independent of additional prompts. Attention, Escape/avoid, Sensory/Autonomic, Tangible



Behavior Intervention Plan



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill (short): _____

Directions: Complete this checklist to develop a behavior intervention plan for the learner.

DEFINE INTERFERING BEHAVIOR:

Blank space for defining interfering behavior.

SELECT EBP(S) TO ADDRESS THE FUNCTION OF THE INTERFERING BEHAVIOR:

<input type="checkbox"/> Antecedent-Based Interventions (ABI)	<input type="checkbox"/> Differential Reinforcement (DR)	<input type="checkbox"/> Extinction (EXT)
<input type="checkbox"/> Functional Communication Training (FCT)	<input type="checkbox"/> Prompting (PP)	<input type="checkbox"/> Response Interruption/Redirection (RIR)
<input type="checkbox"/> Visual Supports (VS)	<input type="checkbox"/> _____	<input type="checkbox"/> _____

DEFINE AN OBSERVABLE AND MEASURABLE GOAL/OBJECTIVE:

Blank space for defining an observable and measurable goal/objective.

PROCEDURES:

1.	Additional materials:
2.	Environmental accommodations:
3.	Response from team members/others



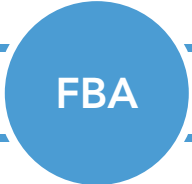
SELECT STRATEGIES FOR ENHANCING LEARNER MOTIVATION:		
<input type="checkbox"/> Reinforcement (R+)	<input type="checkbox"/> Offer choices	<input type="checkbox"/> Incorporate preferred materials into activities
<input type="checkbox"/> Offer preferred activity as reinforcement	<input type="checkbox"/> _____	<input type="checkbox"/> _____

DATA COLLECTION PLAN:	
1.	Setting(s):
2.	Time(s):
3.	Who will collect data?
4.	For how long and how often will data be collected?

ANECDOTAL NOTES:



Data Collection: Event Sampling



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Interfering Behavior: _____

Directions: Collect data on the frequency of the learner demonstrating the interfering behavior.

EVENT SAMPLING:

Date	Tally (each occurrence of the interfering behavior)	Total Tally

ANECDOTAL NOTES:



Data Collection: Duration (Time)



Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Goal/Behavior/Skill: _____

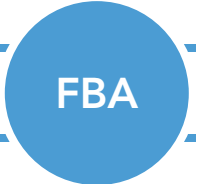
Directions: Collect data on the duration of the learner demonstrating the target goal/behavior/skill to determine if the learner is making progress.

MONITORING DATA:					
Date	Start Time	Stop Time	Total Time (minutes)	Prompts Needed	Before, During, or After Reinforcement
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
					<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After

Prompt Key: V = Verbal; G = Gestural; M = Model; P = Physical; I = No prompts needed/Independent



Data Collection: Duration (Bar)



Learner's Name: _____ Date/Time: _____

Observer(s): _____

Interfering Behavior: _____

Directions: This sheet could be completed by highlighting, circling, or shading the duration (length of the behavior). The sheet is designed to provide a graphic representation of the duration over time (the resulting data, if blocks are circled or highlighted, will appear similar to a bar graph).

Starting from the bottom, shade the number of boxes that represent the length of the interfering behavior. Each box represents ONE minute.

LENGTH OF INTERFERING BEHAVIOR IN ONE MINUTE INCREMENTS:				
Monday __ / __	Tuesday __ / __	Wednesday __ / __	Thursday __ / __	Friday __ / __
15	15	15	15	15
14	14	14	14	14
13	13	13	13	13
12	12	12	12	12
11	11	11	11	11
10	10	10	10	10
9	9	9	9	9
8	8	8	8	8
7	7	7	7	7
6	6	6	6	6
5	5	5	5	5
4	4	4	4	4
3	3	3	3	3
2	2	2	2	2
1	1	1	1	1
0	0	0	0	0



Data Collection: Replacement Behavior

FBA



Learner's Name: _____

Date/Time: _____

Observer(s): _____

Interfering Behavior: _____

Directions: Collect data on the implementation of proactive strategies and/or EBPs to determine if the learner is making progress towards reducing occurrences of interfering behavior(s).

DATA COLLECTION KEY:

Proactive Strategies (PS)	Response to Behaviors (RB)
1.	1.
2.	2.
3.	3.
4.	4.

MONITORING DATA:

Week of:	Proactive Strategies	It Helped	Response to Behaviors	It Helped
Monday	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□
Tuesday	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□
Wednesday	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□
Thursday	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□
Friday	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	PS 1: □□□□□ PS 2: □□□□□ PS 3: □□□□□ PS 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□	RB 1: □□□□□ RB 2: □□□□□ RB 3: □□□□□ RB 4: □□□□□

Step-by-Guide

FBA



This step-by-step practice guide outlines how to plan for, use, and monitor this practice.

BEFORE YOU BEGIN...

Each of the following points is important to address so that you can be sure this selected evidence-based practice is likely to address the target goal/behavior/skill of your learner with autism.

HAVE YOU FOUND OUT MORE INFORMATION ABOUT...?

- Identifying the target goal/behavior/skill...?
- Collecting baseline data through direct observation...?
- Establishing a target goal or outcome that clearly states when the behavior will occur, what the target goal or outcome is, and how team members and/or observers will know when the skill is mastered...?

If the answer to any of the above questions is 'No,' review the process of how to select an appropriate EBP (<https://afirm.fpg.unc.edu/selecting-ebp>).

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

Keep in mind that this selected practice can be used to decrease inappropriate behaviors and increase appropriate behaviors.

STEP 1: PLANNING FOR EBP

The planning step details the initial steps and considerations involved to prepare for using this practice with a learner with autism.

1.1 Establish a multidisciplinary team

Planning should begin with forming a multidisciplinary team that includes all individuals who have observed the learner exhibiting the interfering behavior.

1.2 Identify and define interfering behavior


Together, the team identifies the interfering behavior that is most problematic for the learner. Any behaviors that create safety concerns for the learner or others should be addressed first.

1.3 Review records of learner

In order to understand the selected interfering behavior, records should be reviewed (medical records, psychological evaluations, educational testing, Individualized Education Program (IEP) or Individual Family Service Plan (IFSP), incident reports, anecdotal notes, etc.)


1.4 Select assessment procedures

Team members will gather information concerning the behavior from formal/informal interviews and standardized behavior rating scales.

 *The FBA Assessment Procedures can be used to select an assessment tool to observe the learner.*

1.5 Develop plan for collecting data

Data will need to be collected during times and settings where the interfering behavior occurs most often. Also, it is important to sample in other locations or at other times where the behavior might not occur. Data collection should be for a sufficient period of time to identify consistencies in the behavior.

 *The FBA Planning Sheet can be used as a companion for completing the planning step.*

STEP 2: USING EBP

This step details the process of implementing this practice with a learner with autism.

2.1 Collect data using selected assessment procedures

During the planning stage, the team selected several assessment tools and/or interviews. These will need to be administered and data collected.

- 📖 *The Reinforcer Sampling can be used to determine activities and/or materials that will motivate the learner.*

2.2 Collect data on the occurrence of interfering behavior

Following the developed plan, the team collects data on the interfering behavior using direct observation methods. Using A-B-C data charts will help team members determine what happens right before the behavior (the antecedent), when the behavior that occurs (behavior), and what happens directly after the behavior (the consequence). Also, data tables (commonly referred to as scatterplots in the FBA literature) can be used for data collection in order to help team members determine when the behavior is occurring, the possible functions of the behavior, and times of the day when an intervention might be implemented to reduce the interfering behavior.

- 📖 *The ABC Data Collection can be used to understand the antecedent behavior and consequence.*
- 📖 *The Data Collection: Scatterplot form can be used to identify patterns.*

2.3 Analyze collected data

Analyze collected data to determine the function of the behavior. Behaviors typically fall into two categories of function: 1) to get or obtain something desired or 2) to escape or avoid.

2.4 Develop a hypothesis statement

Based upon the information gathered through assessments, interviews, and direct observations, the team develops a hypothesis statement. Be sure the hypothesis statement developed includes 1) the setting events, immediate antecedents, and immediate consequences that surround the interfering behavior, 2) a restatement and refinement of the description of the interfering behavior that is occurring, and 3) the function the behavior serves (i.e., get/obtain, escape/avoid).

- 📖 *The FBA Hypothesis Worksheet can be used to develop a hypothesis statement.*

2.5 Test the hypothesis to ensure it is correct

To test the developed hypothesis, modify the setting/activity to increase the probability that the behavior occurs. Testing can occur over several days or weeks to confirm the cause of the interfering behavior.

STEP 2: USING EBP (CONTINUED)

2.6 Identify appropriate EBPs to address the interfering behavior

When team members understand the function of the behavior, evidence-based practices can be implemented to reduce the occurrence of the identified interfering behavior while increasing appropriate behaviors.

- 📄 *The Additional EBPs Chart can be used to determine which evidence-based practice(s) to use with the learner.*

2.7 Develop behavior intervention plan

After an EBP is identified, the team develops a behavior intervention plan. The BIP should include strategies for the following: 1) preventing the occurrence of the interfering behavior, 2) teaching or increasing the replacement behavior, and 3) increasing learning opportunities and social engagement.

- 📄 *The Behavior Intervention Plan can be used to develop the BIP.*

STEP 3: MONITORING EBP

The following step details how to monitor the use of this practice with a learner with autism and how to determine next steps based on the data.

3.1 Collect and analyze data

Team members need to collect data that focus on 1) the frequency, or how often, the behavior occurs using time sampling or event sampling, 2) how long (duration) the interfering behavior lasts when it occurs, and 3) frequency of use of replacement behavior(s) including how often the learner uses the replaced behavior(s).

- 📄 *The FBA Time Sampling Form can be used to monitor the frequency of the behavior.*
- 📄 *The FBA Event Sampling Form can monitor the frequency of behaviors that are low frequency.*
- 📄 *The FBA Duration Behavior Form can monitor how long a behavior lasts.*
- 📄 *The Replacement Behavior Form can monitor strategies and interventions.*



STEP 3: MONITORING EBP (CONTINUED)

3.2 Determine next steps based on learner progress

Collecting data will help team members decide about the effectiveness of using this practice and whether the learner with autism is making progress. If a learner is making progress based upon data collected, team members should continue to use the selected strategies.

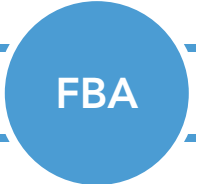
If team members determine that the learner is not making progress, consider the following:

- Is the behavior well defined?
- Is the behavior measurable and observable?
- Are the selected evidence-based practices used with fidelity based upon the implementation checklists?
- Are all team members and staff members consistently using the identified strategies and responses to behavior?

If these issues have been addressed and the learner with autism continues not to show progress, consider selecting a different evidence-based practice to use with the learner with autism.

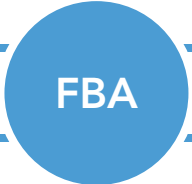


Implementation Checklist



		Observation:	1	2	3	4	5	
		Date:						
		Observer's initials:						
<p>Before you start, have you...?</p> <p><input type="checkbox"/> Identified the target goal/behavior/skill...?</p> <p><input type="checkbox"/> Collected baseline data through direct observation...?</p> <p><input type="checkbox"/> Established a target goal or outcome that clearly states when the behavior will occur, what the target goal or outcome is, and how team members and/or observers will know when the skill is mastered...?</p> <p>If the answer to any of the above questions is 'No,' review the process of how to select an EBP.</p>		STEP 1: PLANNING						
		1.1	Establish a multidisciplinary team					
		1.2	Identify and define interfering behavior					
		1.3	Review records of learner					
		1.4	Select assessment procedures					
		1.5	Have materials ready and available					
		STEP 2: USING						
		2.1	Collect data using select assessment procedures					
		2.2	Collect data on the occurrence of the interfering behavior (A-B-C behavioral analysis)					
		2.3	Analyze collected data					
		2.4	Develop a hypothesis statement					
		2.5	Test hypothesis to ensure it is correct					
		2.6	Identify appropriate EBPs to address interfering behavior					
		2.7	Develop behavior intervention plan (BIP) with strategies for increasing replacement behaviors and learning opportunities					
		STEP 3: MONITORING						
3.1	Collect and analyze data							
3.2	Determine next steps based on learner progress							

Tip Sheet for Professionals



FUNCTIONAL BEHAVIOR ASSESSMENT...

- Is an evidence-based practice for children and youth with autism spectrum disorder from 0-22 years old that can be implemented in multiple settings.
- Assists the IEP team in understanding the function or purpose of a specific interfering behavior.
- Used to increase a target goal/behavior/skill and/or to decrease an interfering/inappropriate/challenging behavior.



WHY USE WITH LEARNERS WITH AUTISM?

- An FBA is needed when the intensity, duration, or type of interfering behavior creates safety concerns or impacts a child's development and learning.
- Team members use an FBA to describe the interfering behavior, identify antecedents or consequence events, and develop and test a hypothesis.
- FBA can help a team determine appropriate evidence-based practices to use to address the interfering behavior.

TIPS:

- Select one person as the FBA coordinator who will coordinate data collection, answer team questions, and ensure FBA is implemented as intended.
- If the learner is demonstrating multiple interfering behaviors, select the interfering behavior which creates a safety concern to address first.
- Collect data on the interfering behavior during various times and settings.

INSTRUCTIONAL OUTCOMES:

- The evidence-base for this practice supports its use to address the following outcomes, according to age range, in the table below:

EVIDENCE-BASE						
	Academic	Adaptive	Challenging/ Interfering	Cognitive	Communication	School readiness
0-2			Yes			
3-5	Yes		Yes		Yes	Yes
6-11	Yes	Yes	Yes	Yes	Yes	Yes
12-14			Yes		Yes	
15-18			Yes	Yes		
19-22			Yes			

STEPS FOR IMPLEMENTING:

1. PLAN

- Establish a multidisciplinary team.
- Identify and define interfering behavior.
- Review records of learner.
- Select assessment procedures.
- Develop plan for collecting baseline data.

2. USE

- Collect data using selected assessment procedures.
- Collect data on the occurrence of the interfering behavior (A-B-C behavioral analysis).
- Analyze collected data.
- Develop a hypothesis statement.
- Test hypothesis to ensure it is correct.
- Identify appropriate EBPs to address interfering behavior.
- Develop behavior intervention plan (BIP) with strategies for increasing replacement behaviors and learning opportunities.

3. MONITOR

- Collect and analyze data on interfering behavior and replacement behavior(s) to determine if BIP is working.
- Determine next steps based on learner progress.



Functional Behavior Assessment FBA

This sheet was designed as a supplemental resource to provide basic information about this evidence-based practice for professionals working with learners with autism.

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

Parent's Guide

FBA



Functional Behavior Assessment FBA

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

To find out more about how this EBP is being used with your child, please talk with:

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

WHAT IS EBP?

- Functional behavior assessment is an evidence-based practice for children and youth with autism spectrum disorder from 0-22 years old that can be implemented in multiple settings.
- Used to increase a target goal/behavior/skill and/or to decrease an interfering/inappropriate/challenging behavior

WHY USE THIS EBP WITH MY CHILD?

- A functional behavior assessment is needed when a challenging behavior regularly interferes with your child's safety, the safety of others, and the learning process.
- Research studies have shown that functional behavior assessment has been used effectively with learners in early intervention, preschool, elementary school, middle school, and high school to address behavior, school readiness, academic adaptive, and communication outcomes.

WHAT ACTIVITIES CAN I DO AT HOME?

- Notice when your child has a challenging behavior, think about what happened before or after the behavior.
- Share your notes and observations with your IEP team to develop possible reasons for the purpose of the behavior.
- Work with your child's IEP team to address the challenging behavior both at school and home.

Additional Resources


FBA



Check out these resources, applications, books, and websites, to support your use of this evidence-based practice.

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

APPLICATIONS:

	Developer		Available	Pricing
	Stephen Moy	<i>Nulite Behavior Tracker for Special Education</i>	iPad	\$19.99

BOOKS:

Cipani, E. (2018). *Functional behavioral assessment, diagnosis, and treatment: a complete system for education and mental health settings*. Springer Publishing Company.

Glasberg, B. A., & LaRue, R. (2014). *Functional Behavior Assessment for People with Autism: Making Sense of Seemingly Senseless Behavior* (2nd ed.). Bethesda, MD: Woodbine House.

Matson, J., (2021) *Functional Assessment for Challenging Behaviors and Mental Health Disorders (Autism and Child Psychopathology Series)*. Springer Publishing Company.

WEBSITES:

CECP. (2001). Functional Behavioral Assessment. <http://cecp.air.org/fba/>

IRIS Center. (n.d.). *What should Ms. Rollison know about behavior in order to help Joseph?* IRIS Center. <https://iris.peabody.vanderbilt.edu/module/fba/cresource/q1/p01/##content>



CEC Standards (CEC, 2020)

FBA



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

Below are the CEC Standards that apply specifically to this evidence-based practice.

Initial Practice-Based Standards for Early Interventionists/Early Childhood (0-5 years; CEC, 2020)

STANDARD 6: USING RESPONSIVE AND RECIPROCAL INTERACTIONS, INTERVENTIONS, & INSTRUCTION

6.4 Promote young children’s social and emotional competence and communication, and proactively plan and implement function-based interventions to prevent and address challenging behaviors.

Initial Practice-Based Standards for (grades K-12; CEC, 2020)

STANDARD 6: SUPPORTING SOCIAL, EMOTIONAL, AND BEHAVIORAL GROWTH

6.3 Systematically use data from a variety of sources to identify the purpose or function served by problem behavior to plan, implement, and evaluate behavioral interventions and social skills programs, including generalization to other environments.

Glossary

FBA



Below are the key terms that apply specifically to this evidence-based practice.

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

A-B-C data charts:

help team members determine what happens before the behavior (the antecedent), when the behavior that occurs (behavior), and what happens directly after the behavior (the consequence).

Antecedent:

the activities and specific events preceding the behavior.

Baseline:

information gathered from multiple sources to better understand the target behavior, before using an intervention or practice.

Baseline data:

data collected on current performance level prior to implementation of intervention.

Behavior intervention plan:

developed by a multidisciplinary team to address an interfering behavior and should include strategies for preventing the occurrence of the interfering behavior, teaching, or increasing the replacement behavior, and increasing learning opportunities and social engagement.

Consequence:

events that followed or results of the behavior.

Duration data:

records how long a learner engages in a particular behavior or skill.

Event sampling:

collects frequency data at every instance the behavior occurs.



FBA coordinator:

selected team member who coordinates and manages data collection, answers questions from other team members, and makes sure that the FBA is implemented as intended.

Frequency data:

used to measure how often the learner with autism engages in the target skill or behavior.

Functional behavior assessment:

is an evidence-based practice used when the intensity, duration, or type of interfering behavior creates safety concerns or impacts a child's development.

Hypothesis statement:

used in FBA, these statements include 1) the setting events, immediate antecedents, and immediate consequences that surround the interfering behavior, 2) a restatement and refinement of the description of the interfering behavior, and 3) the function the behavior serves (i.e., get/obtain, escape/avoid).

Interfering behavior:

is a challenging behavior that interferes with the learner's ability to learn.

Reinforcement:

feedback that increases the use of a strategy or target behavior/skill.

Reinforcer sampling:

helps to identify activities and materials that are motivating to learner with autism. Also known as a preference assessment.

Reinforcers:

increase the likelihood that the target skill/behavior will be used again in the future.

Team members:

includes the parents, other primary caregivers, IEP/IFSP team members, teachers, therapists, early intervention providers, and other professionals involved in providing services for the learner with autism.

Visual supports:

visual supports are concrete cues that are paired with, or used in place of, a verbal cue to provide the learner with information about a routine, activity, behavioral expectation, or skill demonstration.

References

FBA



Listed below, in numerical order, are the references used in the module.

For more information about this selected evidence-based practice, please visit <https://afirm.fpg.unc.edu/>.

1. Blair, K-S. C., Lee, I-S., Cho, S-J., & Dunlap, G. (2011). Positive behavior support through family-school collaboration for young children with autism. *Topics in Early Childhood Special Education, 31*(1), 22-36. doi: 10.1177/0271121410377510.
2. Blair, K-S. C., Umbreit, J., Dunlap, G., & Jung, G. (2007). Promoting inclusion and peer participation through assessment-based intervention. *Topics in Early Childhood Special Education, 27*(3), 134-147.
3. Clarke, S., Worcester, J., Dunlap, G., Murray, M., & Bradley-Klug, K. (2002). Using multiple measures to evaluate positive behavior support: A case example. *Journal of Positive Behavior Interventions, 4*(3), 131-145.
4. Devlin, S., Leader, G., & Healy, O. (2009). Comparison of behavioral intervention and sensory-integration therapy in the treatment of self-injurious behavior. *Research in Autism Spectrum Disorders, 3*, 223-231. doi: 10.1016/j.rautism.2008.06.004.
5. Dunlap, G., & Fox, L. (1999). A demonstration of behavior support for young children with autism. *Journal of Positive Behavior Interventions, 1*(2), 77-87. doi: 10.1177/109830079900100202.
6. McComas, J., Hoch, H., Paone, D., & El-Roy, D. (2000). Escape behavior during academic tasks: A preliminary analysis of idiosyncratic establishing operations. *Journal of Applied Behavior Analysis, 33*(4), 479-493.
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11. Reynolds, C., & Kamphaus, R. W. (2015). Behavior assessment system for children, 3rd edition (BASC-3). Pearson.
12. Iwata, B. A., & DeLeon, I. G. (1995). The functional analysis screening tool (FAST). Unpublished manuscript, University of Florida.
13. Lewis, T.J., Scott, T., & Sugai, G. (1994). The problem behavior questionnaire: A teacher-based instrument to develop functional hypotheses of problem behavior in general education classrooms. *Diagnostique*, 19(2-3), 103-115.
14. Durand, V. M., & Crimmins, D. B. (1992). Motivation assessment scale. Topeka, KS: Monaco & Associates Incorporated.
15. O'Neill, R. E., Horner, R. H., Albin, R. W., Storey, K., & Sprague, J. R. (1997). Functional assessment and program development: A practical handbook. Pacific Grove, CA: Brookes/Cole Publishing Company.