AFIRM

Autism Focused Intervention Resources & Modules

CBIS

EBP Brief Packet: Cognitive Behavioral/Instructional Strategies

UNC Frank Porter Graham Child Development Institute
Autism Focused Intervention Resources & Modules
Mussey, J., Dawkins, T., & AFIRM Team, 2025

Frank Porter Graham Child Development Institute
The National Professional Development Center on Autism
The National Clearinghouse on Autism Evidence & Practice
NCAEP • BRIDGING PRACTICE AND SCIENCE

Overview of Content

1. **Table of CBIS Contents:** This list details the specific CBIS resources that apply to Cognitive Behavioral/Instructional Strategies.
2. **What is CBIS:** A quick summary of salient features of Cognitive Behavioral/Instructional Strategies, 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 Cognitive Behavioral/Instructional Strategies.
4. **Planning Checklist:** This checklist details the steps for planning for Cognitive Behavioral/Instructional Strategies, including what prerequisite learning of practices are needed, collecting baseline data of the interfering behavior 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 Cognitive Behavioral/Instructional Strategies.
6. **Step-by-Step Guide:** Use this guide as an outline for how to plan for, use, and monitor Cognitive Behavioral/Instructional Strategies. Each step includes a brief description as a helpful reminder while learning the process.
7. **Implementation Checklist:** Use this checklist to determine if Cognitive Behavioral/Instructional Strategies are being implemented as intended.
8. **Monitoring Progress Checklist:** Use this form as a method for collecting and analyzing data to determine if the learner on the spectrum is making progress towards the interfering behavior.
9. **Tip Sheet for Professionals:** Use this tip sheet, intended for professionals working with learners on the spectrum, as a supplemental resource to help provide basic information about Cognitive Behavioral/Instructional Strategies.
10. **Parent Guide:** Use this guide intended for parents or family members of autistic learners to help them understand basic information about Cognitive Behavioral/Instructional Strategies and how it is being used with their child.
11. **Additional Resources:** This list provides additional information for learning more about Cognitive Behavioral/Instructional Strategies as well as resources.
12. **CEC Standards:** This list details the specific CEC standards that apply to Cognitive Behavioral/Instructional Strategies.
13. **Glossary:** This glossary contains key terms that apply specifically to Cognitive Behavioral/Instructional Strategies.
14. **References:** This list details the specific references used for developing this CBIS module in numerical order.

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Cognitive Behavioral/Instructional Strategies

WHAT IS CBIS?

Autistic learners often have difficulty understanding their emotions, thoughts, and behaviors, and how these connect. Cognitive Behavioral/Instructional Strategy (CBIS) interventions help by teaching them to recognize their thoughts and feelings and use step-by-step strategies to change their thinking, behavior, and self-awareness. These strategies can help with problems like anger or anxiety (e.g., Cognitive Behavioral Therapy) and teach social or academic skills. CBIS works well with other evidence-based practices, like modeling, visual supports, prompting, reinforcement, social narratives, peer-based instruction and intervention, and parent-implemented intervention.

EVIDENCE-BASE:

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), Cognitive Behavioral/Instructional Strategies (CBIS) is a focused intervention that meets the evidence-based practice criteria with 16 single case design and 34 group design studies . This practice has been effective for elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how Cognitive Behavioral/Instructional Strategies (CBIS) can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, adaptive/self-help, behavior, cognitive, communication, mental health, self-determination, school readiness, and social.
Cognitive Behavioral/Instructional Strategies (CBIS) was previously named Cognitive Behavioral Intervention based on the 2014 systematic review conducted by the National Professional Development Center (NPDC) on autism.

HOW IS CBIS BEING USED?

Cognitive Behavioral/Instructional Strategies 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 Cognitive Behavioral/Instructional Strategies in the home.

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EVIDENCE-BASE

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), Cognitive Behavioral/Instructional Strategies (CBIS) is a focused intervention that meets the evidence-based practice criteria with 16 single case design and 34 group design studies . This practice has been effective for elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how Cognitive Behavioral/Instructional Strategies (CBIS) can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, adaptive/self-help, behavior, cognitive, communication, mental health, self-determination, school readiness, and social.

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

Age	Academic	Adaptive	Behavior	Cognitive	Communication	Mental Health	Self-determination	School Readiness	Social
6-11	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12-14	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15-18	Yes	Yes	Yes		Yes	Yes		Yes	Yes
19-22	Yes	Yes							Yes

ELEMENTARY SCHOOL (6-11 YEARS):

*** Andrews, L., Attwood, T., & Sofronoff, K. (2013). Increasing the appropriate demonstration of affectionate behavior, in children with Asperger syndrome, high functioning autism, and PDD-NOS: A randomized controlled trial. *Research in Autism Spectrum Disorders, 7*(12), 1568-1578. https://doi.org/10.1016/j.rasd.2013.09.010**

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HIGH SCHOOL (15-18 YEARS):

Carnahan, C. R., Williamson, P., Birri, N., Swoboda, C., & Snyder, K. K. (2016). Increasing comprehension of expository science text for students with autism spectrum disorder. *Focus on Autism and Other Developmental Disabilities, 31*(3), 208-220. https://doi.org/10.1177/1088357615610539

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*** Singh, N. N., Lancioni, G. E., Manikam, R., Winton, A. S., Singh, A. N., Singh, J., & Singh, A. D. (2011). A mindfulness-based strategy for self-management of aggressive behavior in adolescents with autism. *Research in Autism Spectrum Disorders*, *5*(3), 1153-1158. https://doi.org/10.1016/j.rasd.2010.12.012**

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*** White, S. W., Ollendick, T., Albano, A. M., Oswald, D., Johnson, C., Southam-Gerow, M. A., Kim, I., & Scahill, L. (2013). Randomized controlled trial: Multimodal anxiety and social skill intervention for adolescents with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 43*(2), 382-394. https://doi.org/10.1007/s10803-012-1577-x**

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YOUNG ADULT (19-22 YEARS):

*** Freitag, C.M., Jensen, K., Elsuni, L., Sachse, M., Herpertz-Dahlmann, B., Schulte-Ruther, M., Hanig, S., Gontard, A., Poustka, L., Schad-Hansjosten, T., Wenzl, C., Sinzig, J., Taurines, R., Geissler, J., Kieser, M., & Cholemkery, H. (2016). Group-based cognitive behavioural psychotherapy for children and adolescents with ASD: The randomized, multicentre, controlled SOSTA - net trial. *Journal of Child Psychology and Psychiatry, 57*(5), 596-605. https://doi.org/10.1111/jcpp.12509**

Hua, Y., Hendrickson, J. M., Therrien, W. J., Woods-Groves, S., Ries, P. S., & Shaw, J. J. (2012). Effects of combined reading and question generation on reading fluency and comprehension of three young adults with autism and intellectual disability. *Focus on Autism and Other Developmental Disabilities, 27*(3), 135-146. https://doi.org/10.1177/1088357612448421

*** Hua, Y., Morgan, B.S.T., Kaldenberg, E.R., & Goo, M. (2012). Cognitive strategy instruction for functional mathematical skill: Effects for young adults with intellectual disability. *Education and Training in Autism and Developmental Disabilities, 47*(3), 345-358.**

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Notes: * denotes the study has participants in at least two age ranges
Bold denotes new studies since 2011 (2012 till 2017)

COGNITIVE BEHAVIORAL/INSTRUCTIONAL STRATEGIES

RESTRUCTURING THE THOUGHT PROCESS:

- **Cognitive Restructuring**: Encourages better decisions, solutions, and coping by replacing negative thoughts with positive, realistic ones.
- **Thought Stopping**: Helps stop intrusive thoughts to make clearer decisions, solve problems effectively, and handle stress quickly.

AFFECT RECOGNITION:

- **Coping Strategies**: Teach methods for managing stress, emotions, or difficult situations in a healthy way.
- **Gradual Exposure**: Gradually exposes learners to feared or challenging situations in a controlled way to reduce anxiety and build confidence.
- **Relaxation Techniques**: Supports clear decisions, logical problem-solving, and calm coping by reducing stress and anxiety.
- **Self-Management**: Improves decision-making, problem-solving, and coping by identifying patterns in emotions and behavior and rewarding themselves for positive behaviors.

COGNITIVE & BEHAVIORAL SKILLS:

- **Behavioral Rehearsal/Role Play**: Prepares learners for real situations by practicing decisions, problem-solving, and coping techniques.
- **Compensatory Strategies**: Teach alternative methods or tools to work around difficulties and maximize strengths.
- **Problem-Solving Skills Training**: Builds confidence in making decisions, solving problems, and handling challenges through step-by-step strategies.
- **Direct Instruction/Teaching of Underlying Concepts/Generalization:**
  - **Modeling:** Provides direct demonstrations of effective decision-making, problem-solving strategies, and stress management to help learners understand and imitate these skills.
  - **Prompting:** Offers step-by-step guidance to teach underlying concepts, support decision-making, break down complex problems, and develop coping strategies over time.
  - **Reinforcement:** Strengthens the understanding and application of good choices, effective solutions, and perseverance by rewarding positive behaviors, encouraging generalization across settings.
  - **Social Narratives:** Directly teaches appropriate decisions, step-by-step solutions, and emotional preparedness for challenging situations by providing clear, relatable examples.
  - **Social Skills Training:** Uses explicit instruction to build decision-making abilities, conflict resolution techniques, and strategies for coping with social challenges, promoting skill generalization.
  - **Visual Supports:** Makes abstract concepts concrete and easier to understand, simplifying decision-making, problem-solving, and coping by using visual aids to generalize skills in various contexts.

Functional Behavior Assessment

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Interfering Behavior: _____
Directions: Complete this checklist to determine the function of the interfering behavior.

DEFINE THE INTERFERING BEHAVIOR:

1. Where does the behavior occur?
2. With whom does the behavior occur?
3. When does the behavior occur?
4. What activity is the learner participating in when the behavior occurs?
5. How long has the behavior been interfering with the learner's development and learning?
6. Does the behavior involve aggression or damage to property?
7. What are other students and adults doing when the behavior occurs?
8. What is the proximity of other students and adults when the behavior occurs?
9. What is the noise level of in the environment when the behavior occurs?
10. Number of individuals in the area:
11. Other environmental conditions:
12. 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
13. Does the learner exhibit other behaviors immediately before the behavior occurs (antecedents)?
14. What happens immediately after the interfering behavior occurs (consequences)?

DETERMINE THE FUNCTION OF THE BEHAVIOR:

15. To get or obtain:
    - ❑ Attention
    - ❑ Food
    - ❑ Toys
    - ❑ Hugs
    - ❑ Sensory stimulation
    - ❑ Other: _____

To escape or avoid:
- ❑ Attention
- ❑ Difficult task/activity
- ❑ Undesirable activity
- ❑ Social stimulation
- ❑ Sensory stimulation
- ❑ Other: _____

DEVELOP HYPOTHESIS STATEMENT:

16. Antecedents & Consequences:

17. Interfering behavior:

18. Function of behavior:

HYPOTHESIS STATEMENT:

DATA COLLECTION: A-B-C

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Skill/Goal/Behavior: _____
Directions: Collect data what happens directly before the activity (antecedent), describe the activity (behavior), and determine what happens directly after the activity (consequence). Note approximately how many minutes the learner participated in the activity.

Date/Time/ Setting	Antecedent	Behavior	Consequence	Approximation duration (minutes)

Prompt Key: VB = Verbal; VSP = Prompt to use Visual Support; G = Gestural; M = Model; FP = Full Physical; PP = Partial Physical; I = No prompts needed/Independent; IS = Independent with support (VS = Visual Support; VM = Video Modeling; SN = Social Narratives)

NEEDS & SKILLS ASSESSMENT

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Goal/Behavior/Skill: _____
Directions: Use this worksheet to take notes to determine the needs and skills of the learner.

REVIEW RECORDS:

INTERVIEW TEAM MEMBERS (FAMILY, PROVIDERS, AND/OR TEACHERS):

INTERVIEW/OBSERVE LEARNER:

DETERMINE LEARNER'S LEARNING STYLE:

- ❑ **Implicit** - Implicit learning is automatic learning that occurs outside of conscious awareness, such as early language learning. Implicit learning can be an area of weakness for learners who may compensate for this weakness by using explicit or direct learning strategies.

- ❑ **Explicit/Direct** - Explicit learning is effortful, conscious learning, such as algebra.

- ❑ **Attention** - Learners can sometimes have "sticky" attention or a narrow beam of attentional focus. Sometimes this leads to an over focus on details and difficulties distinguishing between relevant and non-relevant details, difficulties disengaging one's attention or shifting one's attention, or problems seeing the big picture

- ❑ **Visual** - Sometimes an individual on the spectrum can be a visual learner and have a strength in visual processing or learning from what they see.

- ❑ **Verbal** - Sometimes an individual on the spectrum can be a verbal learner and have a strength in auditory processing or learning from what they hear.

- ❑ **Executive Functioning** - Sometimes learners on the spectrum, difficulties with executive functioning skills are present. This can include weak organizational skills, trouble with initiation, weak planning/sequencing skills, and difficulties with flexibility, cognitive shifting, or transitions.

- ❑ **Perspective-taking** - For learners on the spectrum, insight into their own emotions as well as the emotions of others can be an area of difficulty. Sometimes this also includes difficulties understanding other people's perspectives or difficulties with theory of mind (Frith, Baron-Cohen). Theory of mind involves the ability to understand that others have beliefs that are different from one's own.

- ❑ **Sensory Processing** - Autistic learners can sometimes have difficulty filtering and modulating sensory input. This could be hyper-reactivity or over-stimulation, which may result in aversions, avoidance, or over-arousal, or this could be hypo-reactivity or under-stimulation, which may result in sensory seeking or not noticing sensory input.

DETERMINE LEARNER STRENGTHS:

DETERMINE LEARNER AREAS FOR IMPROVEMENT/NEEDS:

REINFORCER SAMPLING & CHECKLIST

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Goal/Behavior/Skill: _____
Directions: Use this worksheet and checklist to identify and select reinforcers/rewards based on the learner's preferred items, interests, and activities for **Positive Reinforcement** and **Token Economy**.

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	Selected?	Item 2	Selected?
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No

LIST SELECTED REINFORCERS:

LIST POTENTIAL REINFORCERS:

AGE APPROPRIATE?

1. What natural reinforcers could be used?

   Yes No

2. What activities, objects, and/or foods does the learner select independently?

   Yes No

3. What phrases or gestures seem to produce a pleasant response from the learner?

   Yes No

4. What does the learner say they would like to work for (if appropriate)?

   Yes No

5. What reinforcers were identified by parents/family members and/or team members as being successful in the past?

   Yes No

6. Does the learner require additional adaptations/ modifications/supports? Such as visual supports or a communication device?

   Yes No

7. Have reinforcers/rewards for the learner been identified based on the learner's interests/preferred items and/or activities?

   Yes No

8. Are additional materials and/or resources for using Functional Behavior Assessment ready and available?

   Yes No

FOODS FOR SNACKS/MEALTIME ROUTINES:

- ❑ Cheese
- ❑ Chicken Nuggets
- ❑ Chips
- ❑ French Fries
- ❑ Fruit
- ❑ Goldfish
- ❑ Ice Cream
- ❑ Pizza
- ❑ Pretzels
- ❑ Other:
- ❑ Other:
- ❑ Other:

GAMES FOR PLAY/RECESS ROUTINES:

- ❑ Burrito games with a blanket
- ❑ Chase
- ❑ Pat-a-Cake
- ❑ Peek-a-Boo
- ❑ Tickles
- ❑ Other:
- ❑ Other:
- ❑ Other:
- ❑ Other:

TOYS FOR PLAY/RECESS ROUTINES:

- ❑ Books
- ❑ Cars/Trains/Trucks
- ❑ Computer
- ❑ Doll house
- ❑ Legos
- ❑ Noisy toys
- ❑ Phones
- ❑ Puzzles
- ❑ Remote controlled toys
- ❑ Other:
- ❑ Other:
- ❑ Other:

SPECIAL INTERESTS FOR ACTIVITIES/ROUTINES:

- ❑ Book Character:
- ❑ Book:
- ❑ Cars, Trains, Trucks
- ❑ Computers/Technology
- ❑ Dinosaurs
- ❑ Letters
- ❑ Movie Character:
- ❑ Movie:
- ❑ Music
- ❑ Numbers
- ❑ Real-Life Person:
- ❑ TV Show Character:
- ❑ TV Show:
- ❑ Video Game:
- ❑ Other:
- ❑ Other:
- ❑ Other:
- ❑ Other:

PROMPTING HIERARCHY

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Skill/Goal/Behavior: _____
Directions: Use this checklist to determine order of prompts based on the learner's needs and the target skill.

PROMPTS:

- **Gestural** – a physical movement that provides the learner with information about how to perform the target skill/behavior
- **Independent** – the learner can perform the target skill/behavior without assistance or support from others
- **Model** – demonstrating the correct way to perform the target skill/behavior for the learner
- **Physical** – hands-on assistance given to the learner to support them to perform the target skill/behavior
- **Verbal** – any spoken words direct to the learner to help them perform the target skill/behavior
- **Visual** – a picture, icon, or physical object used to provide the learner with information on how to perform the target skill/behavior

Level	Prompt	Instructions
Level 1	Independent	
Level 2		
Level 3		
Level 4		
Level 5		
Level 6		

CBIS Session Plan

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Skill/Goal/Behavior: _____
Format: ❑Individual ❑Group **Frequency:** _____
Length: _____ **Setting:** _____
Directions: Use this form to develop a session plan for using CBIS to address the learner's identified need(s).

Item	Plan	Complete?	Changes/Notes
Session Topic		❑Yes	
Content/Skills to discuss		❑Yes	
Behavior management		❑Yes	
Instructional strategies		❑Yes	
Materials needed		❑Yes	

CBIS Session Plan: Example

Learner's Name: Lara **Date/Time:** 9/8, 9/15
Observer(s):
Target Skill/Goal/Behavior:
Format: ☑Individual ❑Group **Frequency:** 1x a week
Length: 20 minutes **Setting:** Resource
Directions: Use this form to develop a session plan for using CBIS to address the learner's identified need(s).

Item	Plan	Complete?	Changes/Notes
Session Topic	Building coping skills	❑Yes	Began work
Content/Skills to discuss	▪Assessed coping skills currently being used, selected additional coping skills of interest to try worksheets with frequently used coping skills with option to write in additional skills ▪Introduced concept of coping skills, provided worksheet with list of frequently used coping skills, practice strategies coping skills in session, developed list of coping skills to practice during the week for homework	❑Yes	▪Continue working on identifying additional strategies to include in coping toolbox ▪Need to continue going through possible coping strategies as did not get through all of them and start preparing those selected to include in "coping toolbox"
Behavior management	Use of visual schedule to show progress in session	❑Yes	
Instructional strategies	Direct instruction, modeling, visual supports	❑Yes	
Materials needed	Worksheets, stress balls, pencil	❑Yes	

Countdown to Calm Down

5

Take a deep breath in
Hold for 3 seconds
Exhale
Name 5 things you see

4

Take a deep breath in
Hold for 3 seconds
Exhale
Name 4 things you hear

3

Take a deep breath in
Hold for 3 seconds
Exhale
Name 3 things you feel

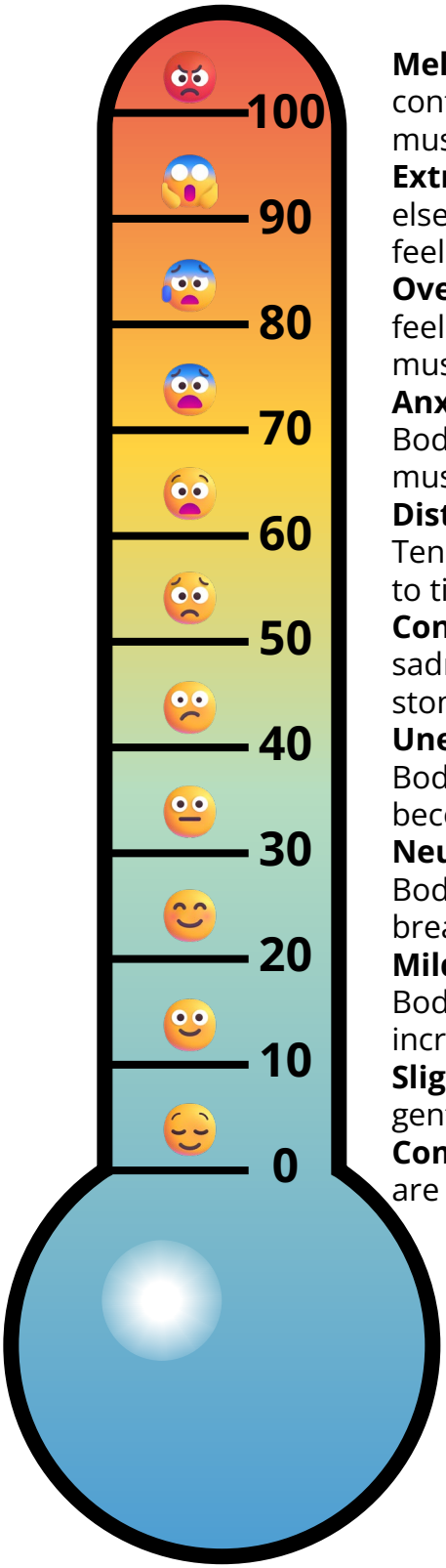
2

Take a deep breath in
Hold for 3 seconds
Exhale
Name 2 things you smell

1

Take a deep breath in
Hold for 3 seconds
Exhale
Name 1 thing you taste

Feelings Thermometer



Meltdown: Complete emotional outburst, unable to regulate or control feelings. Body: Body feels hot, adrenaline surges, fists clench, muscles may tremble, breathing is rapid and uncontrolled.
Extremely upset: Near emotional breakdown, feelings dominate all else. Body: Heart pounds, breathing may be shallow and rapid, body feels tense and shaky.
Overwhelmed: Emotionally burdened, difficult to process or control feelings. Body: Breathing becomes erratic, chest feels constricted, muscles feel stiff or shaky.
Anxious: Intense unease, struggling with overwhelming emotions. Body: Heart races, palms may sweat, a sinking feeling in the stomach, muscles feel tight.
Distressed: Strong emotions arise, feeling unsettled or upset. Body: Tension in the chest or jaw, breathing becomes faster, muscles begin to tighten.
Concerned: Noticeable emotional weight, starting to feel worried or sadness. Body: Shoulders may feel heavy, heart rate slightly elevated, stomach feels unsettled.
Uneasy: Slight discomfort, mild emotional uncertainty or concern. Body: A small knot in the stomach, slight muscle tension, breathing becomes a bit shallow.
Neutral: Emotionally balanced, neither overly positive nor negative. Body: Body feels steady, no significant tension or discomfort, breathing is natural.
Mildly happy: Pleasant emotions, a small sense of joy or satisfaction. Body: Energy feels smooth and balanced, face feels warm, slight increase in energy.
Slightly positive: Feeling good, light happiness, and ease. Body: A gentle smile, relaxed posture, lightness in the chest.
Completely calm: Fully at peace, content, and relaxed. Body: Muscles are loose, breathing is slow and steady, heart rate is normal.

EXAMPLE POWERCARD

NASA astronauts read every single day! Reading helps them learn about new planets, plan missions, and even figure out how to live in space. Reading is a powerful skill that makes astronauts successful.

Mission Tips for Reading Success:

1. 👩‍🚀 **Suit Up!:** Just like astronauts put on their space suits, you can prepare by getting your "reading gear" ready: a book, a comfy spot, and maybe even a space-themed bookmark!
2. 📋 **Mission Plan:** Astronauts break big tasks into small steps. You can do this too! Start by reading a few words, then sentences, and soon, entire pages.
3. 💁 **Ask for Ground Control Support:** When astronauts don't understand something, they ask for help from Ground Control. You can ask a teacher, parent, or friend to help you sound out tricky words or explain something you don't understand.
4. 🚀 **Blast Off with New Words:** Learning new words is like exploring new planets! Try sounding out the letters or looking at pictures in the book for clues.
5. 🌟 **Celebrate Each Step:** NASA celebrates every success, no matter how small. Give yourself a thumbs-up or say, "I'm awesome!" after finishing a page or chapter.

Reading helps astronauts imagine new ideas for space travel! Every time you read, you're building the same skills we use to explore the universe.

Dandelion Breathing

Hold the dandelion: Imagine holding a soft, fluffy dandelion in your hands.

Take a deep breath: Breathe in deeply, filling your lungs with air. Hold for 3 seconds.

Blow gently: Slowly blow on the dandelion and watch the seeds float away.

Let go of stress: As the seeds float, imagine your stress and worries floating away too.

Feel calm: With each breath and seed that floats off, feel yourself becoming more relaxed and peaceful.

PLANNING CHECKLIST

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Skill/Goal/Behavior:_____
Directions: Complete this checklist to determine which type of Cognitive Behavioral/Instructional Strategies to use with the learner on the spectrum as well as if CBIS is ready to be implemented.

ASSESS THE LEARNER'S CURRENT ABILITIES:

- ❑ **Imitate others:** Is the learner able to imitate others if a model is provided?
- ❑ **Sustain attention:** Can the learner sustain attention long enough to observe the modeled behavior?
- ❑ **Prerequisite skills:** Does the learner have needed prerequisite skills/abilities?
  - ❑ **Cognitive level:** Is the learner's cognitive development level above 6 years old?
  - ❑ **Language skills:** Is the learner's expressive and receptive language skills above 6 years old?
  - ❑ **Reading level:** Does reading level of any written materials match the learner's reading level?
  - ❑ **Group setting:** Is the learner ready and able to learn in a group setting?
  - ❑ **Self-reflection:** Is the learner able to self-reflect?
  - ❑ **Affect recognition:** Does the learner recognize their emotions?
  - ❑ **Perspective-taking:** Can the learner take the perspective of others?

If you DID NOT check off any of these questions, Cognitive Behavioral/Instructional Strategies MIGHT NOT be helpful to use with the learner.

SELECT GROUP/INDIVIDUAL TRAINING:

- ❑ Individual
- ❑ Group:
  - ❑ Peer models?

  Needs of included student(s):

  Grade level(s) included:

SELECT CBIS STRATEGY:

- ❑ Behavioral rehearsal/Role-play
- ❑ Direct instruction/Teaching of underlying concepts
- ❑ Cognitive restructuring
- ❑ Coping strategies
- ❑ Compensatory strategies
- ❑ Gradual exposure
- ❑ Relaxation techniques
- ❑ Self-monitoring
- ❑ Thought stopping

SELECT ADDITIONAL EBPS:

- ❑ Modeling
- ❑ Parent-Implemented Intervention
- ❑ Peer-Based Instruction & Intervention
- ❑ Prompting
- ❑ Reinforcement
- ❑ Self-Management
- ❑ Social Narratives
- ❑ Social Skills Training
- ❑ Visual Supports
- ❑ Other:

DETERMINE SESSION:

1. Setting:

2. Schedule (Time/Frequency):

3. Length:

PLANNING:

- ❑ Has baseline data and/or a functional behavior assessment been collected through direct observation of the learner?
- ❑ Has an assessment of needs and skills been collected through:
  - ❑ Review of records and previous assessments
  - ❑ Interviews with parents, current or recent providers, or teacher(s)
  - ❑ Talking with the learner
  - ❑ Observations
  - ❑ Use of formal and/or informal assessment tools
  - ❑ Completion of rating scales
- ❑ Has the target goal/behavior/skill been identified?
- ❑ Is the target goal/behavior/skill measurable and observable? Does it clearly state **what** the target goal/behavior/skill is, **when** it will occur, and **how** team members/observers will know it has been mastered?
- ❑ Is Cognitive Behavioral/Instructional Strategies appropriate for the learner's target goal/behavior/skill?
- ❑ Does the learner require additional adaptations/modifications/supports? Such as a communication device or visual supports?
- ❑ Have reinforcers/rewards for the learner been identified based on the learner's interests/preferred items and/or activities?
- ❑ Are additional materials and/or resources for using Cognitive Behavioral/Instructional Strategies ready and available?
- ❑ Is there someone on the team that is trained in the selected CBIS?
- ❑ Has a CBIS session plan been developed?

Session Homework: Example

Name: Lara **Week of:** 9/22

Target Skill/Goal/Behavior: Use coping strategies to remain calm during math class

Directions: Use this form to keep track of how often you are using your coping strategies.

Coping Strategies:

1. Take a deep breath.
2. Count backwards from 10.
3. Tell myself, "I can show myself how smart I am by writing down the answer."
4. Tell myself, "It's ok to make mistakes because it helps the class learn."
5. Remind myself that it is the teacher's job to correct other student's mistakes and help them learn.

When did I use each strategy?

Date	1	2	3	4	5
9/22	||||	||||	|||		
9/23	||||	||||	||		
9/24		|||	|	||	
9/25		|||			|
9/26	||				||
Total					

DATA COLLECTION: EVENT RECORDING

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Goal/Behavior/Skill: _____
Directions: Collect data on the frequency of the learner demonstrating the target goal/behavior/skill to determine if the learner is making progress.

Date	Tally (each occurrence of the target behavior)	Total Tally	Notes (Strategies used, Learner responses)

ANECDOTAL NOTES:

MONITORING PROGRESS CHECKLIST

Learner's Name: _____ **Date/Time:** _____
Observer(s): _____
Target Skill/Goal/Behavior: _____
Directions: Complete this checklist to determine if the learner is making progress with using Cognitive Behavioral/Instructional Strategies.

MONITORING PROGRESS:

- ❑ Is the target skill or behavior well defined?
- ❑ Is the target skill or behavior measurable and observable?
- ❑ Has the correct target behavior been identified?
- ❑ Are there skills that need to be taught before addressing the target behavior (e.g., expressive social- communication goal, teach a new coping strategy)?
- ❑ Do the invention strategies match the student's learning style and developmental level?
- ❑ Has enough time been devoted to using CBIS?
- ❑ Was CBIS used with fidelity? (Use the CBIS Implementation Checklist to determine fidelity.)
- ❑ Are the visuals and activities appropriate to the student's developmental level and level of receptive language?
- ❑ Is the skill or target behavior too difficult for the learner or not developmentally appropriate for the learner based on their developmental level?
- ❑ Is a consistent format used for each session?
- ❑ Are instructional strategies being used consistently?
- ❑ Are reinforcers used that are motivating to the learner?
- ❑ Was the reinforcer applied with fidelity?

Step-by-Step Guide

This step-by-step practice guide outlines how to plan for, use, and monitor Cognitive Behavioral/Instructional Strategies.

BEFORE YOU BEGIN…

Each of the following points is important to address so that you can be sure Cognitive Behavioral/Instructional Strategies is likely to address the target goal/behavior/skill of your learner on the spectrum.

HAVE YOU FOUND OUT MORE INFORMATION ABOUT…?

- ❑ Identifying the behavior…?
- ❑ 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 Cognitive Behavioral/Instructional Strategies, please visit https://afirm.fpg.unc.edu/ .

Keep in mind that **Cognitive Behavioral/ Instructional Strategies** can be used to increase desired/ appropriate behaviors/skills and to decrease inappropriate behaviors.

STEP 1: PLANNING FOR CBIS

The planning step details the initial steps and considerations involved to prepare for using Cognitive Behavioral/Instructional Strategies with a learner on the spectrum.

1. **Determine if learner has prerequisite skills**
   Due to the cognitive and linguistic skills needed to engage in CBIS, autistic learners with whom CBIS techniques have often been utilized have typically have intact intellectual and academic skills that are largely within the average range of functioning. Often, necessary skills may include cognitive developmental level above approximately 6 years, expressive and receptive language skills above approximately 6 years, reading level consistent with the level of written materials used, and if doing CBIS in a group, being group ready (ability to learn information in a group format, demonstrate appropriate behavior in a group, etc.).

2. **Conduct a functional behavior assessment**
   A Functional Behavior Assessment (FBA) should be conducted to aid in identifying the most likely function of the interfering behavior.
   - Note: Check out the module on FBA for more information about this specific process.

   Use the **FBA** to gather information on an interfering behavior.

3. **Conduct an assessment of needs and skills**
   To address the behavioral piece of CBIS, conducting a functional behavior assessment can often be helpful to gather information regarding the concerning or interfering behavior including the antecedents and consequences of that behavior. To address the cognitive piece of CBIS, assessing the learners learning style from a perspective of autism can often be helpful in giving additional information as to why a behavior is occurring and the learner's cognitive strengths and weaknesses in order to help develop the intervention strategies to be used or modify them as necessary.

   Use the **Needs & Skills Assessment** to gather data about a learner's needs and skills.

   Use the **CBIS Planning Checklist** as a companion for completing the planning step.

4. **Choose or create a CBIS intervention**
   There are a variety of cognitive behavioral intervention models and evidence-based treatment programs, including those that have been manualized or published, for children, adolescents, and adults to address a variety of issues. These may need to be individualized to the specific learner on the spectrum that you are working with.

5. **Obtain training and/or supervision for chosen CBIS intervention**
   An understanding of the fundamental tenets of CBIS and its application in general is critical to accurate implementation of CBIS strategies and techniques. Thus, this understanding is essential before using CBIS in practice. Some states, professional organizations, or licensing boards may have guidelines and regulations on training requirements and practice considerations. A professional's training, background, and field of study may influence how much time is required to learn these skills.

6. **Develop a session plan**
   a) **Determine delivery format:**
      - CBIS can be carried out in a 1-on-1 or group format, so instructors/interventionists must decide whether to individually train one learner or to create a group for instruction. The decision will likely be based on various factors, including the skills and developmental level of the learner, the availability of the trainer, availability of space, and scheduling constraints.
      - Select peer(s) for participation: If a group format is selected, the next decision involves what type of learners will be included in the group. Consider:
        - Will all learners be in the same grade level or will participants be chosen across several grade levels?
        - Will all learners have ASD or will children or adolescents with a variety of needs be included?
        - Will peer models be included in the group?

- Prepare instructors and adults to assist with training: Consider who will provide the intervention. Someone trained in CBIS techniques is often the main provider preparing and leading the intervention. In a school setting, professionals may be included, such as general education teachers, special education teachers, guidance counselors, speech language pathologists, school psychologists, paraprofessionals, or even parent(s) if family involvement is part of the intervention. Community-based providers may include psychologists, social workers, or therapists. Make sure all adults who will be leaders are familiar with the principles of CBIS as well as specific lesson plans.

Use the **Planning Checklist** as a companion for completing the planning for sessions.

b) Determine meeting place and schedule

- A meeting time and place for the CBIS needs to be selected that is convenient for both the learners on the spectrum, other members, and the leader. The length of a session can vary greatly from 10 minutes to 90 minutes.
- Individual sessions are often 45-60 minutes while group sessions are often closer to 90 minutes.

c) Determine format structure

To ensure the most effective use of time, CBIS may involve a common format for each session, depending on the goal and the type of session planned. At a minimum, a session often includes:

- a check in,
- review of that session's agenda,
- review current status and events during the time since the last session,
- review of any homework given,
- focus on the main agenda items/session content,
- assigning new homework (based on the main session content for continuity between sessions), and
- review of the session.

Use the **Planning Checklist** as a companion for completing the planning for sessions.

Use the **Session Plan** to guide a CBIS session.

d) Design individualized program

- Select content of lessons: Team members should consider the needs of the autistic learners and group members (if a group format was selected) to determine what will be taught in session. Keep in mind that large topics of instruction might include underlying components to the skill that will need to be addressed as well.
- Select CBIS techniques: CBIS techniques and common adaptations based on the learner styles of individuals on the spectrum include psychoeducation, affect recognition, cognitive restructuring, graded exposure, practice of strategies.
- Practice of strategies: Modeling, role-play, and use of strategies and skills in real situations can be helpful in developing, reinforcing, and generalization of skills.
- Other adaptations: There are a variety of other adaptations for the learning style of individuals on the spectrum, including schedules, chill outs/relation, incorporating interests to increase motivation, and visual countdowns.

7. **Prepare materials**
   Before you begin CBIS, you will need to prepare the materials. If you have selected any curriculum to support instruction, you will need to obtain those materials. Whether you have planned your own lessons or are using already created lessons, you will need to look ahead to see what materials are involved in the lessons and make sure you have those materials ready. Copies may need to be made, pictures collected, books checked out, etc.

8. **Determine reinforcers**
   When teaching a learner new skills, it is important to reinforce the use of those skills. This may be a part of a systematic reinforcement system utilized during the course of the intervention. This could include stickers, tokens, points, or some other symbolic system; other options may include tangible items, edibles, or access to special items or activities.
   Use the **Reinforcer Sampling & Checklist** to identify reinforcers.

STEP 2: USING CBIS

This step details the process of implementing Cognitive Behavioral/Instructional Strategies with a learner on the spectrum.

1. **Implement the intervention as planned**
   Refer back to the plan for instruction you made during the planning step. To plan for each session, use a session guide. The session guide can include information about the topic, skill addressed, content, structure, behavior management, instructional strategies, and materials needed.
   Use the **Session Plan** to guide a CBIS session.

2. **Support generalization of target skills**
   Reinforcement of skills begins in the CBIS session, but it should not end there. It is important to plan to support learners in generalizing those skills to other settings, people, and activities.
   Use the **Session Homework - Example** as a guide for assigning CBIS homework.

STEP 3: MONITORING CBIS

The following step details how to monitor the use of Cognitive Behavioral/Instructional Strategies with a learner on the spectrum and how to determine next steps based on the data.

1. **Collect and analyze data**
   Team members should collect data on target skills and behaviors. A variety of formats can be used to collect data depending on the behaviors or skills targeted for instruction and the features of the training.
   Use the **Data Collection: Event Recording** to collect data.

2. **Determine next steps based on learner progress**
   Collecting data will help team members decide about the effectiveness of using Cognitive Behavioral/Instructional Strategies and whether the learner on the spectrum 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 target skill or behavior well defined?
   - Is the target skill or behavior measurable and observable?
   - Has the correct target behavior been identified?
   - Are there skills that need to be taught before addressing the target behavior (e.g., expressive social- communication goal, teach a new coping strategy)?
   - Do the invention strategies match the student's learning style and developmental level?
   - Has enough time been devoted to using CBIS?
   - Was CBIS used with fidelity? (Use the CBIS Implementation Checklist to determine fidelity.)
   - Are the visuals and activities appropriate to the student's developmental level and level of receptive language?
   - Is the skill or target behavior too difficult for the learner or not developmentally appropriate for the learner based on their developmental level?
   - Is a consistent format used for each session?
   - Are instructional strategies being used consistently?
   - Are reinforcers used that are motivating to the learner?
   - Was the reinforcer applied with fidelity?

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

IMPLEMENTATION CHECKLIST

BEFORE YOU START, HAVE YOU…?

- ❑ 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).

	Observation:	**1**	**2**	**3**	**4**	**5**
	Date:					
	Observer's Initials:					
	STEP 1: PLANNING					
1.1	Determine if learner has prerequisite skills					
1.2	Conduct a functional behavior assessment					
1.3	Conduct an assessment of needs and skills					
1.4	Choose or create a CBIS intervention					
1.5	Obtain training and/or supervision for chosen CBIS intervention					
1.6	Develop a session plan:					
1.6a	Determine delivery format					
1.6b	Determine meeting place and schedule					
1.6c	Determine format structure					
1.6d	Design individualized program					
1.7	Prepare materials					
1.8	Determine reinforcers					
	STEP 2: USING					
2.1	Implement CBIS intervention as planned					
2.2	Support generalization of target skills					
	STEP 3: MONITORING					
3.1	Collect data on target behaviors					
3.2	Determine next steps based on learner progress					

TIP SHEET FOR PROFESSIONALS

COGNITIVE BEHAVIORAL/INSTRUCTIONAL STRATEGIES …

- Is a focused evidence-based practice for children and youth on the spectrum from 6-22 years old that can be implemented in multiple settings.
- Is based on principle that thinking controls external behavior.
- Teach learners new skills and new ways of thinking that can lead to changes in their behavior and actions.

WHY USE WITH LEARNERS ON THE SPECTRUM?

- CBIS is found to be effective in improving many cognitive and behavioral skills (social functioning, coping skills, and emotional well-being).
- CBIS can be used to teach new cognitive and/or behavioral skills that were never learned, teach compensatory strategies for cognitive deficits that cannot be changed and/or teach strategies to increase coping and/or decrease mental health symptoms in order to increase emotional well-being.

INSTRUCTIONAL OUTCOMES:

The evidence-base for Cognitive Behavioral/Instructional Strategies supports its use to address the following outcomes, according to age range, in the table below:

TIPS:

- Be sure the learner has the needed prerequisite cognitive, expressive, and receptive skills needed to participate in CBIS.
- Conduct a FBA to gather information regarding the interfering behavior.
- Choose or create a CBIS intervention that incorporates cognitive behavioral strategies specific to the learning characteristics of the learner.

Age	Academic	Adaptive	Behavior	Cognitive	Communication	Mental Health	Self-determination	School Readiness	Social
6-11	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12-14	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15-18	Yes	Yes	Yes		Yes	Yes		Yes	Yes
19-22	Yes	Yes							Yes

STEPS FOR IMPLEMENTING:

1. **PLAN**
   - Determine if learner has prerequisite skills
   - Conduct a functional behavior assessment
   - Conduct an assessment of needs and skills
   - Choose or create a CBIS intervention
   - Obtain training and/or supervision for chosen CBIS intervention
   - Develop a session plan
   - Prepare materials
   - Determine reinforcers

2. **USE**
   - Implement CBIS intervention as planned
   - Support generalization of target skills

3. **MONITOR**
   - Collect and analyze data on target behaviors
   - Determine next steps based on learner progress

Cognitive Behavioral/Instructional Strategies CBIS

This sheet was designed as a supplemental resource to provide basic information about Cognitive Behavioral/Instructional Strategies for professionals working with learners on the spectrum.

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

PARENT'S GUIDE

WHAT IS CBIS?

- A focused evidence-based practice for children and youth on the spectrum from 6-22 years old that can be implemented in multiple settings.
- CBIS teaches learners to examine their own thoughts and emotions, recognize when negative thoughts and emotions are escalating in intensity, and then use strategies to change their thinking and behavior.

WHY USE THIS CBIS WITH MY CHILD?

- Autistic learners often struggle with understanding their emotions, thoughts, and behaviors.
- CBIS has been found to be effective in improving many cognitive and behavioral skills for learners on the spectrum.
- Skills addressed by CBIS can include: Obsessive and repetitive thoughts and behaviors, Irrational thoughts and fears, Social anxiety, Depressive symptoms, and/or Anger

WHAT ACTIVITIES CAN I DO AT HOME?

- Before your child begins CBIS, provide information to your child's teacher or practitioner about your child's learning style. This information will be helpful in developing intervention strategies.
- Talk with your child's teacher or provider about how you can be involved in the intervention.
- Ask for strategies you can use at home to increase your child's ability to use skills/strategies outside of sessions. Praise or reward your child when they use a strategy at home.

Cognitive Behavioral/ Instructional Strategies CBIS

This parent introduction to CBIS was designed as a supplemental resource to help answer questions about Cognitive Behavioral/ Instructional Strategies.

To find out more about how this CBIS 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/.

Additional Resources

APPS:

Icon	Developer	Name	Available	Pricing
	Autistica	*Molehill Mountain*	App Store Google Play	Free
	madebyeducators	*iReact*	iPad	3.99
	Sesame Workshop	*Breathe, Think, Do with Sesame*	App Store	Free

CBIS PROGRAMS:

- *Facing Your Fears*: manualized group therapy for managing anxiety in autistic learners by Judith Reaven, Audrey Blakeley-Smith, Shanna Nichols, and Susan Hepburn
- *Exploring Depression and Beating the Blues*: cognitive behavior therapy to understand and cope with depression by Tony Attwood and Michelle Garnett
- *Exploring Feelings*: series by Tony Attwood
- *Modified Building Confidence CBT program*: for anxiety in autistic learners by Jeff Wood and colleagues
- *Cool Kids ASD Program Kit*: program addressing anxiety in autistic learners by Anne Chalfant, Heidi Lyneham, Ronald Rapee, and Louisa Carroll
- *Coping Cat program*: for children with anxiety and autism examined by McNally Keehn and Kristina Hedtke
- *Multi-Component Integrated Treatment*: for adolescents on the spectrum developed and examined by Susan White and colleagues

WEBSITES:

Anderson, C. (2012). Cognitive Behavioral Therapy and Autism Spectrum Disorders. Ian Community. https://iancommunity.org/cs/simons_simplex_community/cognitive_behavioral_therapy

CEC Standards

INITIAL PRACTICE-BASED STANDARDS FOR EARLY INTERVENTIONISTS/EARLY CHILDHOOD (0-5 YEARS; CEC, 2020)

Standard 4: Assessment Processes

4.1 Understand the purposes of formal and informal assessment, including ethical and legal considerations, and use this information to choose developmentally, culturally and linguistically appropriate, valid, reliable tools and methods that are responsive to the characteristics of the young child, family, and program

4.2 Develop and administer informal assessments and/or select and use valid, reliable formal assessments using evidence-based practices, including technology, in partnership with families and other professionals.

4.3 Analyze, interpret, document, and share assessment information using a strengths-based approach with families and other professionals.

4.4 In collaboration with families and other team members, use assessment data to determine eligibility, develop child and family-based outcomes/goals, plan for interventions and instruction, and monitor progress to determine efficacy of programming.

Standard 6: Using Responsive and Reciprocal Interactions, Interventions, and Instruction

6.2 Engage in reciprocal partnerships with families and other professionals to facilitate responsive adult-child interactions, interventions, and instruction in support of child learning and development.

6.3 Engage in ongoing planning and use flexible and embedded instructional and environmental arrangements and appropriate materials to support the use of interactions, interventions, and instruction addressing developmental and academic content domains, which are adapted to meet the needs of each and every child and their family.

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.

6.6 Use responsive interactions, interventions, and instruction with sufficient intensity and types of support across activities, routines, and environments to promote child learning and development and facilitate access, participation, and engagement in natural environments and inclusive settings.

INITIAL PRACTICE-BASED STANDARDS FOR (GRADES K-12; CEC, 2020):

Standard 6: Supporting Social, Emotional, and Behavioral Growth

6.1 Use effective routines and procedures to create safe, caring, respectful, and productive learning environments for individuals with exceptionalities.

6.2 Use a range of preventive and responsive practices documented as effective to support individuals' social, emotional, and educational well-being.

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

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)

Affect recognition - involves teaching individuals about emotions and how they are connected

Baseline data- data collected on current performance level prior to implementation of intervention

Cognitive Behavioral/Instructional Strategies (CBIS) - instruction on management or control of cognitive processes that lead to changes in behavioral, social, or academic behavior.

Cognitive restructuring - involves teaching individuals to recognize and correct beliefs that may be distorted through examining the evidence for these beliefs and then creating new perceptions

Event recording - collects frequency data at every instance the behavior occurs

External behavior - refers to overt actions

Functional Behavioral Assessment (FBA) - A systematic way of determining the underlying function or purpose of a behavior so that an effective intervention plan can be developed.

Generalization - when the target skill or behavior continues to occur when the intervention ends, in multiple settings, and with multiple individuals (e.g., peers, teachers, parents)

Gradual exposure - involving encouraging and rewarded learners to gradually face these fears one small step at a time

In vivo - modeling, role-play, use of strategies and skills in real situations can be helpful in developing, reinforcing, and generalization of skills

Individualized intervention - an intervention that is planned and implemented in a way specific to the learner receiving the intervention

Internal behavior - refers to thinking

Modeling (MD) - Demonstration of a desired target behavior that results in use of the behavior by the learner and that leads to the acquisition of the target behavior.

Natural reinforcer - occur naturally as a result of using the target behavior or skill.

Parent-Implemented Intervention (PII) - Parent delivery of an intervention to their child that promotes their social communication or other skills or decreases their behavior that interferes with their safety or learning.

Peer-Based Instruction & Intervention (PBII) - Intervention in which peers directly promote autistic children's social interactions and/or other individual learning goals, or the teacher/ other adult organizes the social context (e.g., play groups, social network groups, recess) and when necessary, provides support (e.g., prompts, reinforcement) to the autistic children and their peer to engage in social interactions.

Prompting (PP) - Verbal, gestural, or physical assistance given to learners to support them in acquiring or engaging in a targeted behavior or skill.

Reinforcement (R) - The application of a consequence following a learner's use of a response or skills that increases the likelihood that the learner will use the response/skills in the future.

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

Self-Management (SM) - Instruction focusing on learners discriminating between appropriate and inappropriate behaviors, accurately monitoring, and recording their own behaviors, and rewarding themselves for behaving appropriately.

Social Narratives (SN) - Interventions that describe social situations in order to highlight relevant features of a target behavior or skill and offer examples of appropriate responding.

Social Skills Training (SST) - Group or individual instruction designed to teach learners ways to participate in their interactions appropriately and successfully with others.

Target behavior - the behavior or skill that is the focus of the intervention. Behavior may need to be increased or decreased.

Visual Supports (VS) A visual display that supports the learner engaging in a desired behavior or skills independent of additional prompts

References

1. Gaus, V. L. (2007). *Cognitive-behavioral therapy for adult Asperger syndrome*. New York: Guilford Press.

2. Drahota, A., Wood, J. J., Sze, K. M., & Van Dyke, M. (2011). Effects of Cognitive Behavioral Therapy on daily living skills in children with high-functioning autism and concurrent anxiety disorders. *Journal of Autism and Developmental Disorders*, *41*(3), 257–265. http://doi.org/10.1007/s10803-010-1037-4

3. Sofronoff, K., Attwood, T. and Hinton, S. (2005), A randomised controlled trial of a CBT intervention for anxiety in children with Asperger syndrome. *Journal of Child Psychology and Psychiatry*, 46: 1152–1160. doi:10.1111/j.1469-7610.2005.00411.x

4. Sofronoff, K. V., Attwood, T., Hinton, S. L. and Levin, I. (2007). A randomized controlled trial of a cognitive behavioural intervention for anger management in children diagnosed with Asperger Syndrome. *Journal of Autism and Developmental Disorders*, *37* 7: 1203-1214. doi:10.1007/s10803-006-0262-3

5. Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, S., & Savage, M. N. (2020). *Evidence-based practices for children, youth, and young adults with Autism.* The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice Review Team. https://ncaep.fpg.unc.edu/sites/ncaep.fpg.unc.edu/files/imce/documents/EBP%20Report%202020.pdf