CAPTAIN
California Autism Professional Training and Information Network

SELPA Content Lead
EVIDENCE
Based Practices
Autism

What is CAPTAIN?

CAPTAIN is a multiagency network developed to support the understanding and use of Evidence-Based Practices for individuals affected by Autism Spectrum Disorder across California.

CAPTAIN Vision

Develop a Statewide Training and
Technical Assistance Network
with a focus on
Evidence-Based Practices
for individuals with **Autism**
inclusive of stakeholder agencies who
will disseminate information
at the **Local Level**

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CAPTAIN Goals

Goal 1: Increase knowledge about ASD and EBPs through systematic dissemination of information

Goal 2: Increase implementation and fidelity of EBPs in schools and communities

Goal 3: Increase interagency collaborations to leverage resources and standardize a process for using EBPs

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CAPTAIN is also a SELPA Content Lead-ASD in partnership with Marin County SELPA which is part of California's Statewide System of Support

Department of Education, State of California

Marin County SELPA

CCEE
California Collaborative for Educational Excellence

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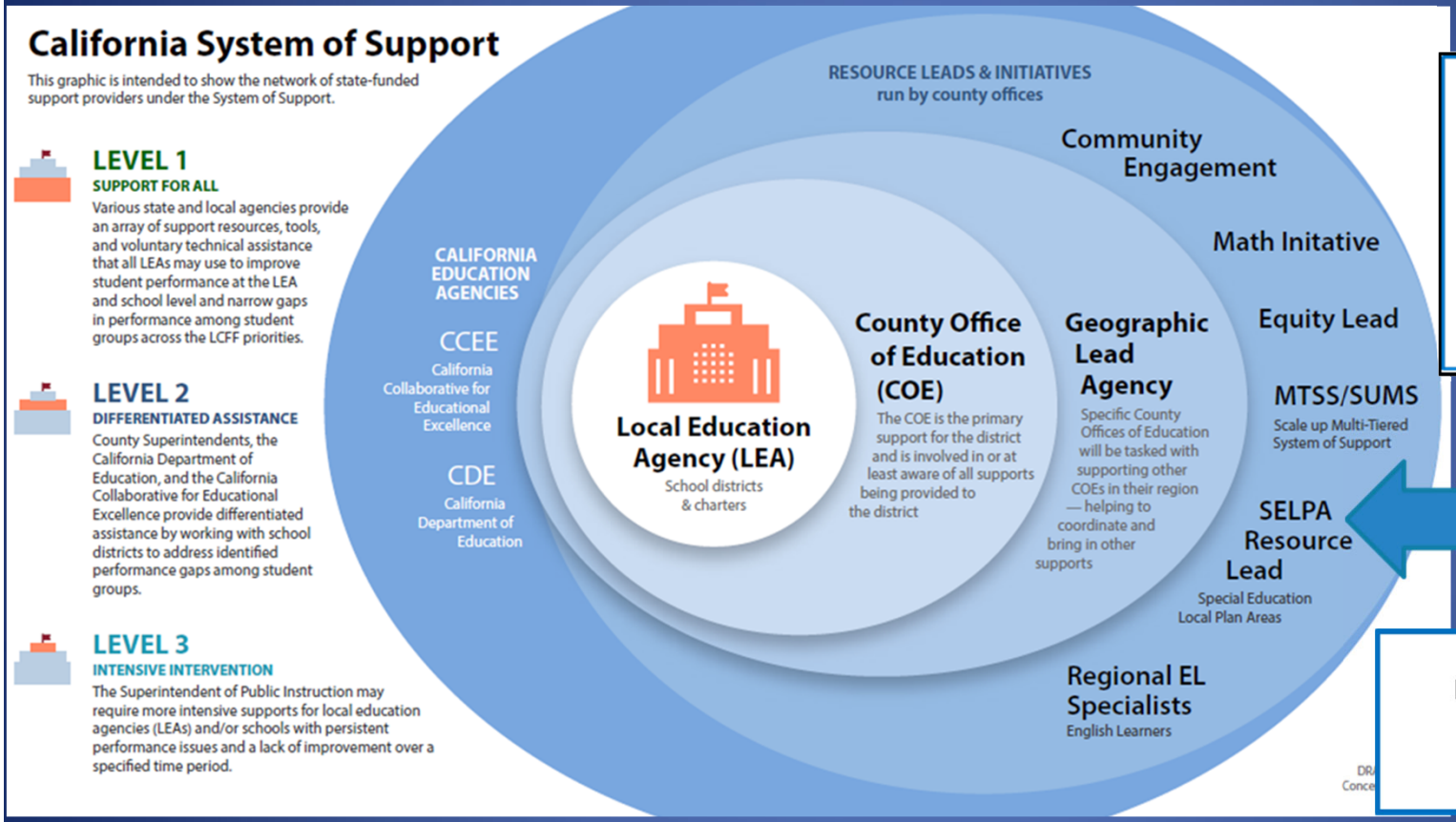
CAPTAIN IS PART OF CALIFORNIA'S STATEWIDE SYSTEM OF SUPPORT



SELPA Content Leads

Marin County/CAPTAIN
ASD

Placer County:
Access AT/AAC/UDL

South County:
Disproportionality

Imperial County:
English Language Learners

SELPA SYSTEMS IMPROVEMENT LEADS:
El Dorado County
West San Gabriel
Riverside County

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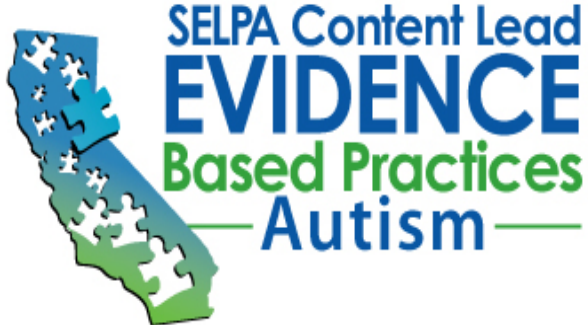
CAPTAIN Partners Across California



UCDAVIS HEALTH | MIND INSTITUTE

Center for Excellence in Developmental Disabilities

Regional Centers

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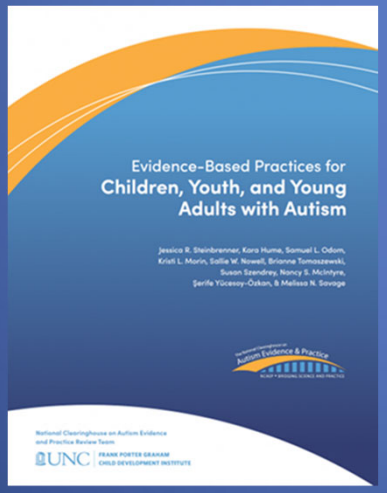
What are Evidence-Based Practices (EBPs) for ASD?



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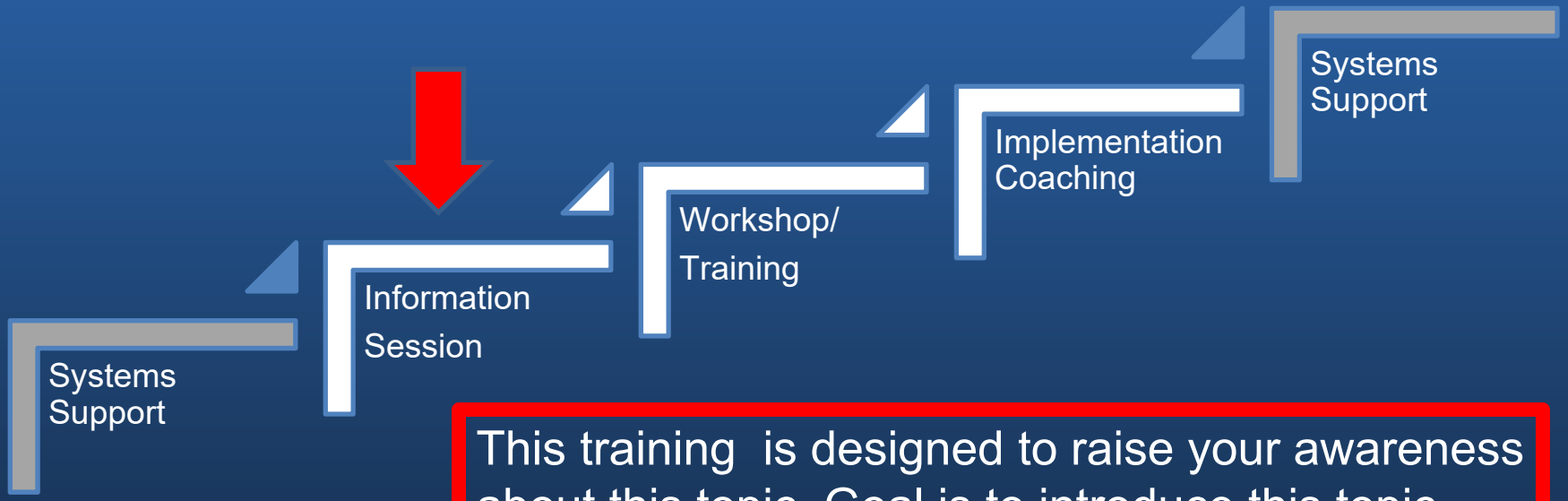
Levels of Professional Development to Reach Implementation



This training is designed to raise your awareness about this topic. Goal is to introduce this topic and share additional resources that you can access to increase your knowledge and use.

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How many results do you think you would get if you did a Google search for:

"AUTISM TREATMENT"?

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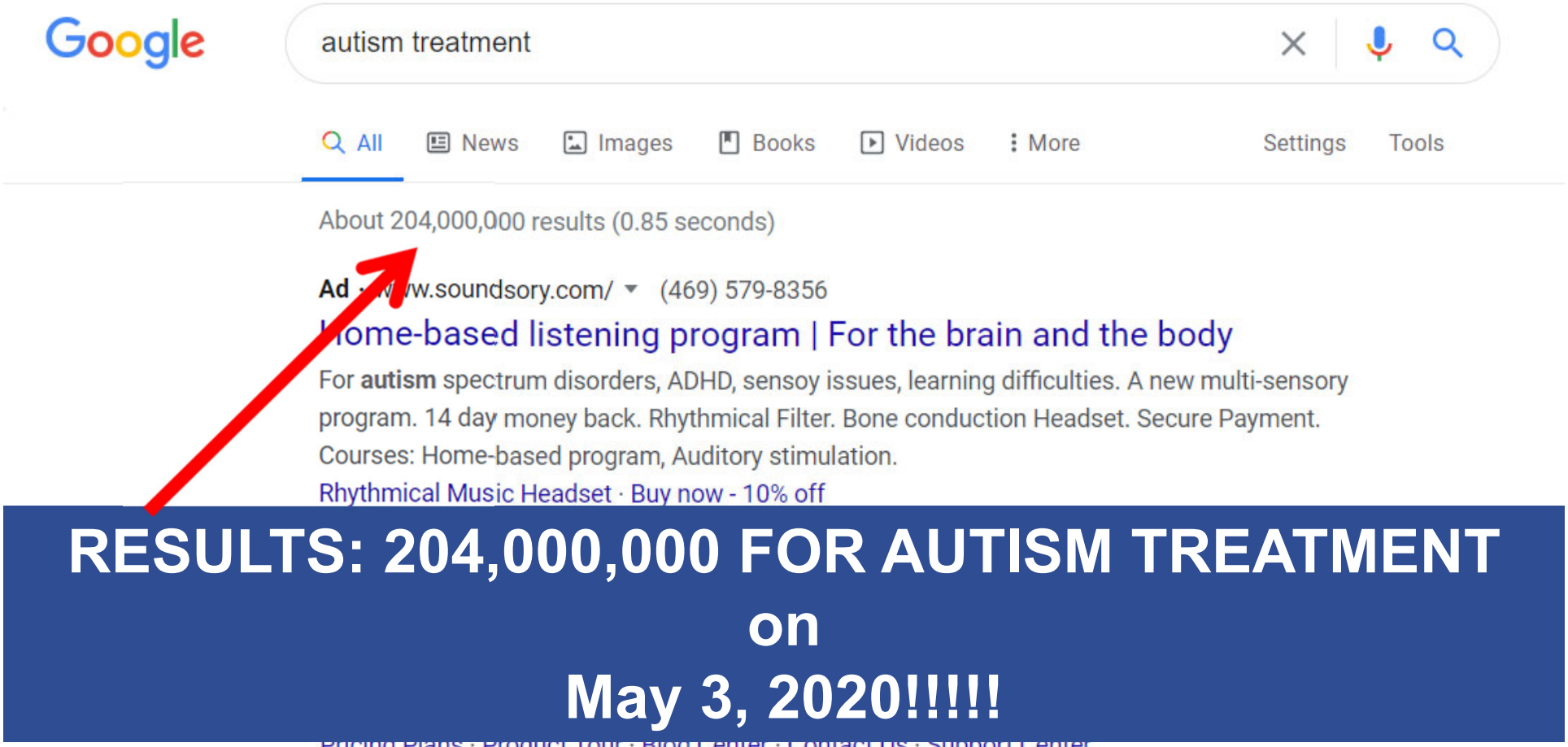
Google
autism treatment
All
News
Images
Books
Videos
More
Settings
Tools
About 204,000,000 results (0.85 seconds)
Ad · www.soundsory.com/ (469) 579-8356
Home-based listening program | For the brain and the body
For autism spectrum disorders, ADHD, sensoy issues, learning difficulties. A new multi-sensory program. 14 day money back. Rhythmical Filter. Bone conduction Headset. Secure Payment. Courses: Home-based program, Auditory stimulation.
Rhythmical Music Headset · Buy now - 10% off
RESULTS: 204,000,000 FOR AUTISM TREATMENT on May 3, 2020!!!!!
Pricing Plans · Product Tour · Blog Center · Contact Us · Support Center
Ad · www.getanswersnow.com/autism-services
Online Autism Help | Autism Support For Parents
You and your child deserve support during these stressful times. We're here to help.

MYRIAD OF TREATMENTS FOR ASD

- Treatments for ASD are more diverse than any other known disability
- Treatment claims range from amelioration to recovery
- Many interventions with no scientific evidence have been recommended for individuals with ASD

2 IMPORTANT ASD EBP RESOURCES

National Clearinghouse on Autism Evidence and Practice (NCAEP)	National Autism Center (NAC)
1. 28 Evidence Based Practices 2. AFIRM 3. CSESA 4. EBPs for Young Children **Released April 2020**	1. National Standards Project Report-Phase 2 NSP2 **Released April 2015**
https://ncaep.fpg.unc.edu/ http://afirm.fpg.unc.edu http://csesa.fpg.unc.edu http://asdtoddler.fpg.unc.edu www.captain.ca.gov	www.nationalautismcenter.org www.captain.ca.gov

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A History of Systematic Reviews of the Literature for Evidence Based Practices (EBPs)

- In 2009, 11 Established Treatments
  - Reviewed by National Standards Project from National Autism Center, Phase 1 (NSP1)
  - Included research for the years: 1957-2007

www.nationalautismcenter.org

www.nationalautismcenter.org

A History of Systematic Reviews of the Literature for Evidence Based Practices (EBPs)

- **In 2010, 24 EBPs**
  - National Professional Development Center (NPDC)
  - Included 10 years, 1997-2007 (175 Research Studies)
  - Funded by OSEP (Office of Special Education Programs, US Department of Education)
- **In 2014, 27 EBPs**
  - 2nd review conducted by NPDC
  - Included 22 years, 1990-2011
    - 29,101 possible studies ➔456 studies
    - RCT, quasi-experimental, single case design
  - Strength of evidence for assessment
  - Based on number, type of studies using each EBP

http://autismpdc.fpg.unc.edu/

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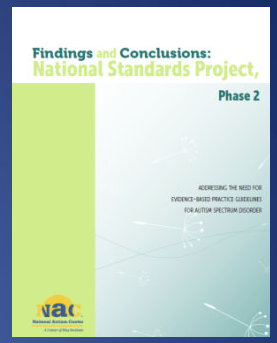
A History of Systematic Reviews of the Literature for Evidence Based Practices (EBPs)



- **In 2015, 14 Established Interventions Under Age 22**
  1 Established Intervention Age 22+
  - **2nd** review conducted by National Standards Project, National Autism Center, Phase 2 (NSP2)

- Reviewed studies published in peer reviewed journals between 2007 and February of 2012
  - 351 articles (ages 0-22) and 27 articles (ages 22+)
  - included studies if the interventions could be implemented in or by school systems, early intervention, home, hospital, vocational. and/or community-based programs or in clinic settings

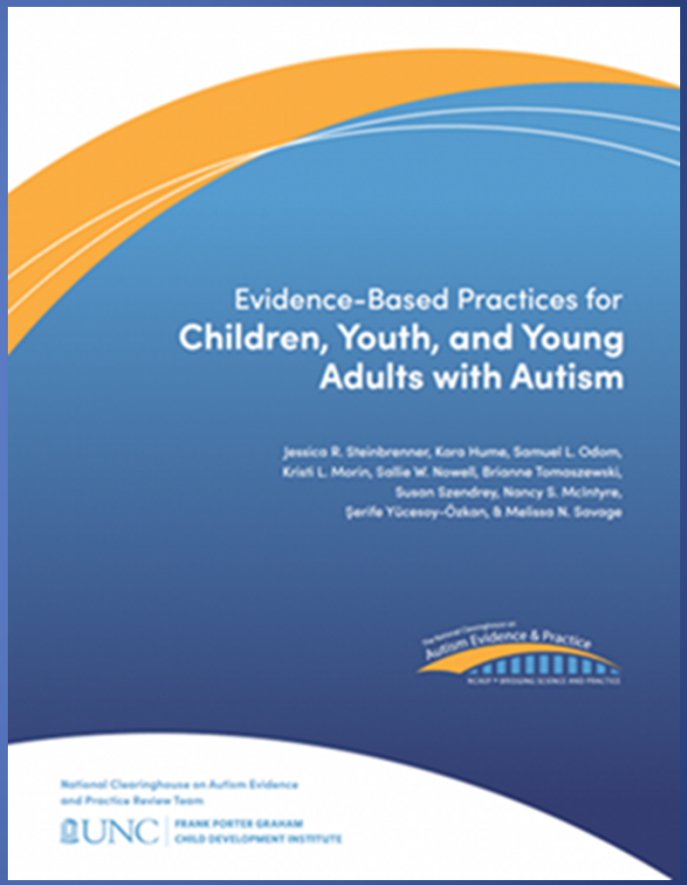
www.nationalautismcenter.org

NEW!

April 2020 Report

National Clearinghouse on Autism Evidence and Practice (NCAEP)

NCAEP updated the previous NPDC report (Wong et al. 2014) and synthesizes intervention research published between 1990 and 2017



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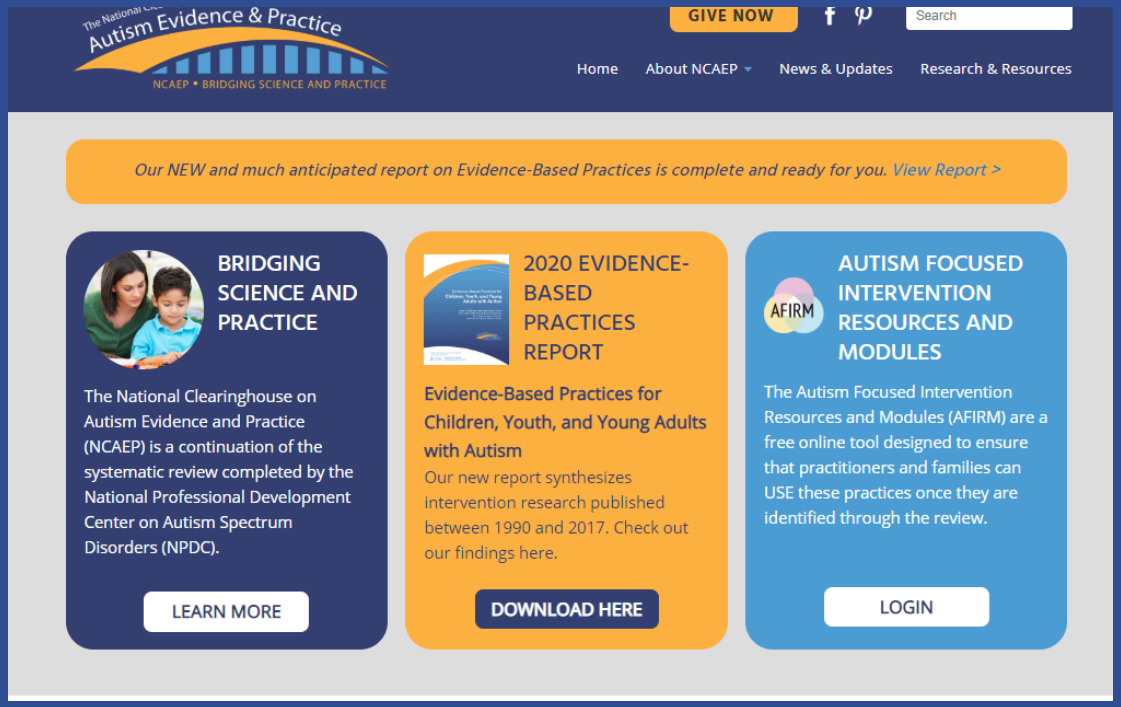
National Clearinghouse on Autism Evidence and Practice

National Clearinghouse on Autism Evidence and Practice (NCAEP) was formed with the purpose of providing a continuation of the NPDC systematic reviews



https://ncaep.fpg.unc.edu/home

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The National Autism Center Announces the Launch of the National Standards Project, Phase 3

We are now recruiting individuals interested in volunteering as article reviewers for Phase 3!

NAC IS UPDATING THEIR REVIEW TOO!
Reviewing research through 2018

The National Standards Project was designed to give educators, parents, practitioners, and organizations the information and resources the need to make informed choices about effective interventions for individuals with autism spectrum disorder (ASD).

Phase 1 (released in 2009) examined and quantified the level of research supporting interventions that target the core characteristics of ASD in children, adolescents, and young adults (below 22 years of age) on the autism spectrum.

Phase 2 (released in 2015) provides an update to the literature for interventions for those under age 22, and also included studies evaluating interventions for adults (22+), which had never been systematically evaluated.

Release Date 2021

The primary goal of this newest phase of the National Standards Project is to provide updated information about which interventions have been shown to be effective for individuals with autism spectrum disorder across the lifespan. Phase 3 will include all previous literature from Phases 1 and 2 of the Project, as well as all new research conducted through 2018. The report will be released in 2021 by the National Autism Center at May Institute.

2 IMPORTANT ASD EBP RESOURCES

National Clearinghouse on Autism Evidence and Practice (NCAEP)	National Autism Center (NAC)
1. 28 Evidence Based Practices 2. AFIRM 3. CSESA 4. EBPs for Young Children	1. National Standards Project Report-Phase 2 NSP2
Released April 2020 NEW!	Released April 2015
https://ncaep.fpg.unc.edu/ http://afirm.fpg.unc.edu http://csesa.fpg.unc.edu http://asdtoddler.fpg.unc.edu www.captain.ca.gov	www.nationalautismcenter.org www.captain.ca.gov

Let's talk about the NCAEP first!

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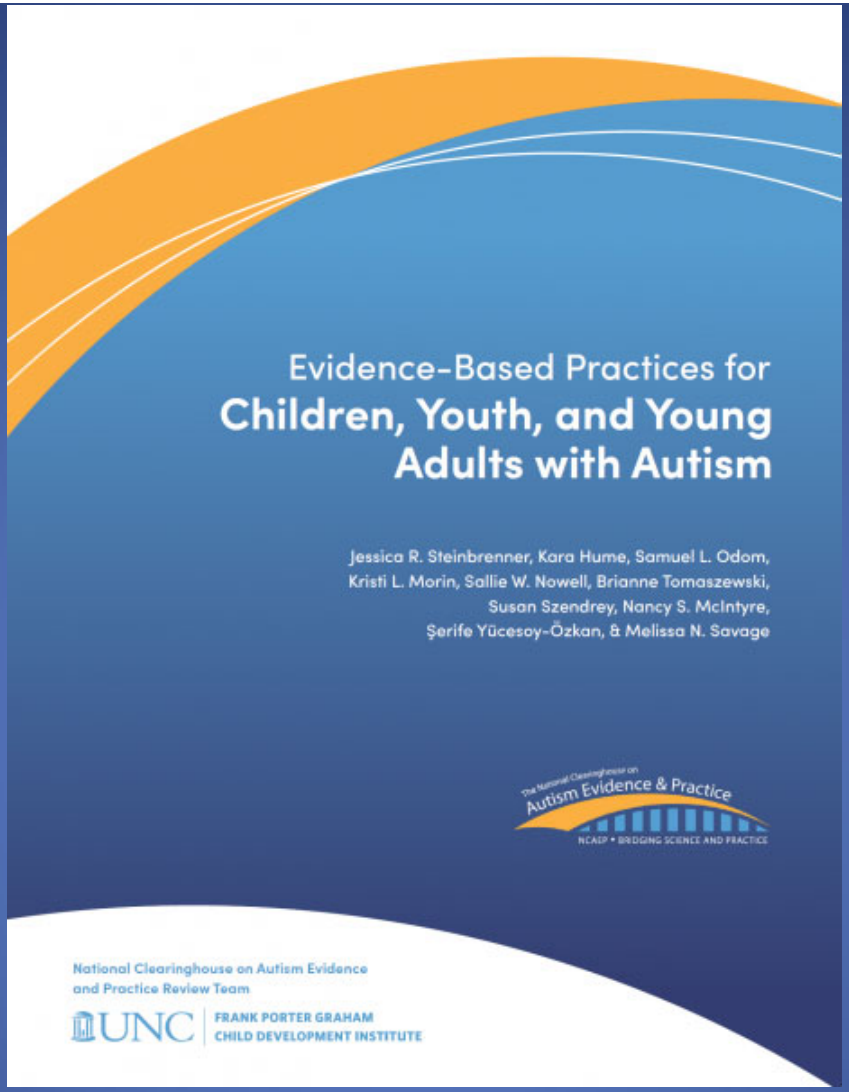
NEW!



Released APRIL 2020

https://ncaep.fpg.unc.edu/

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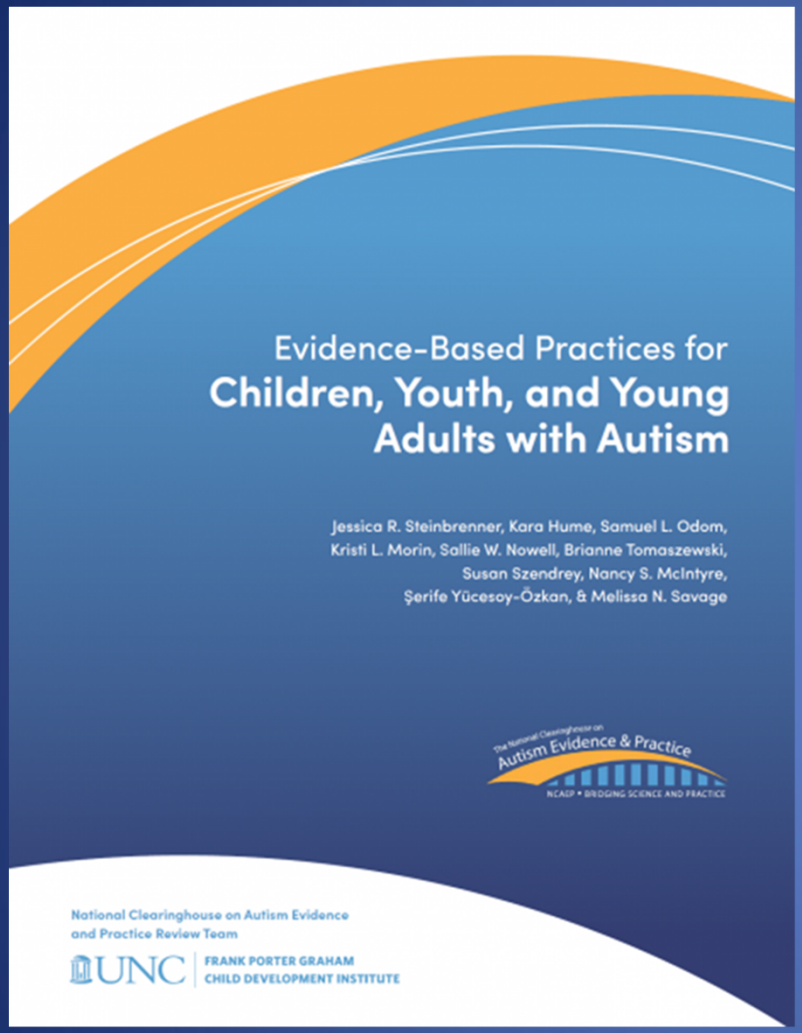
What's in this report?



Citation: 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.

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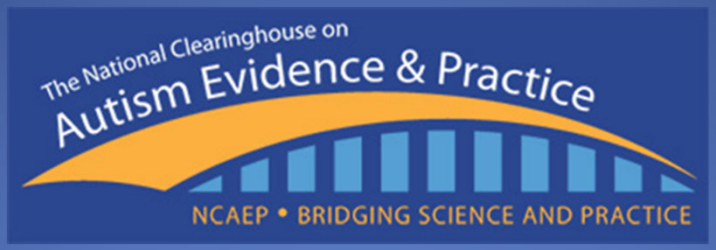
Definition of EBP (NCAEP)



NCAEP definition of an EBP:

"Focused intervention practices that have evidence of efficacy in promoting positive outcomes for learners with ASD."

The National Clearinghouse on Autism Evidence & Practice

NCAEP • BRIDGING SCIENCE AND PRACTICE

Criteria for Qualification of an EBP

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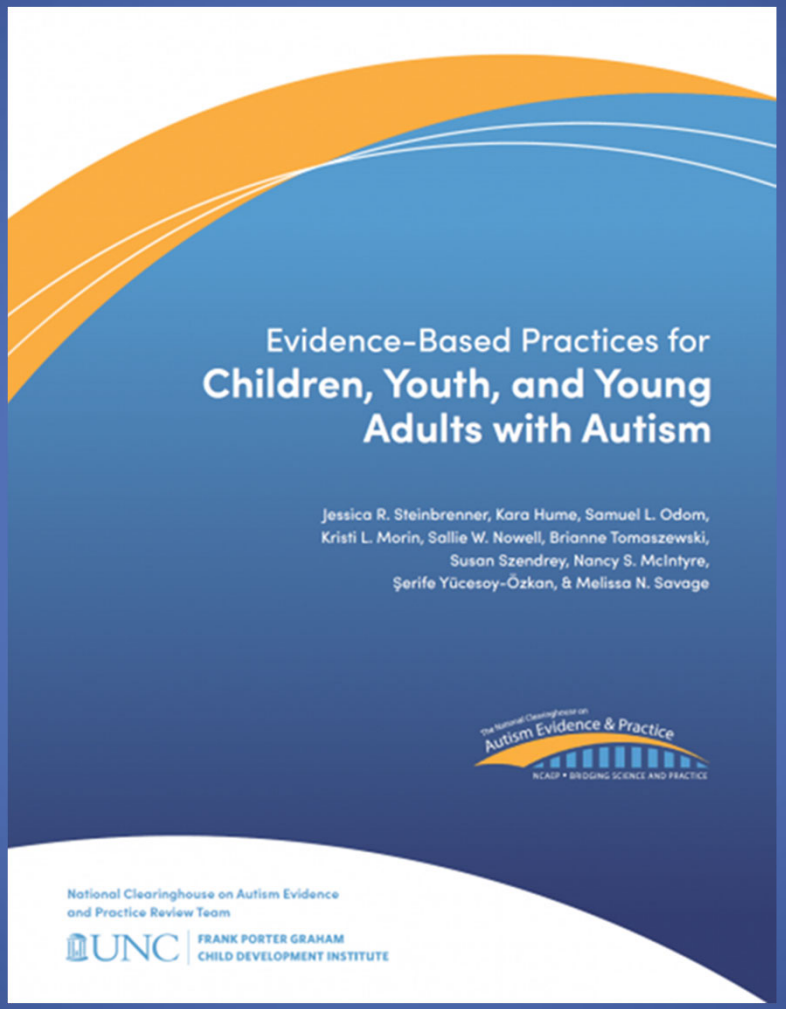
What are these 28 EBPs?



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28 Evidence Based Practices (2020)

- Antecedent-Based Interventions
- Augmentative and Alternative Communication
- Behavioral Momentum Intervention
- Cognitive Behavioral/Instructional Strategies
- Differential Reinforcement of Alternative, Incompatible, or Other Behavior
- Direct Instruction
- Discrete Trial Training
- Exercise and Movement
- Extinction
- Functional Behavioral Assessment
- Functional Communication Training
- Modeling
- Music-Mediated Intervention
- Naturalistic Intervention
- Parent-Implemented Intervention
- Peer-Based Instruction and intervention
- Prompting
- Reinforcement
- Response Interruption and Redirection
- Self-Management
- Sensory Integration
- Social Narratives
- Social Skills Training
- Task Analysis
- Technology-Aided Intervention and Instruction
- Time Delay
- Video Modeling
- Visual Supports

5 New Evidence Based Practices

Antecedent-Based Interventions
Augmentative and Alternative Communication
Behavioral Momentum Intervention
Cognitive Behavioral/Instructional Strategies
Differential Reinforcement of Alternative, Incompatible, or Other Behavior
Direct Instruction
Discrete Trial Training
Exercise and Movement
Extinction
Functional Behavioral Assessment
Functional Communication Training
Modeling
Music-Mediated Intervention
Naturalistic Intervention
Parent-Implemented Intervention
Peer-Based Instruction and intervention
Prompting
Reinforcement
Response Interruption and Redirection
Self-Management
Sensory Integration*
Social Narratives
Social Skills Training
Task Analysis
Technology-Aided Intervention and Instruction
Time Delay
Video Modeling
Visual Supports

*"It is important to note that Sensory Integration refers explicitly to the model developed by Jean Ayers (2005) and not to a variety of unsupported interventions that address sensory issues (Barton et al., 2015 Case-Smith et al., 2015; Watling & Hauer, 2015). " Page 41 of NCAEP Report

Manualized Interventions Meeting Criteria for EBPs (MIMCs)

NEW!

"Interventions that clearly fit the EBP categorical definitions but had themselves enough evidence to be classified as an EBP."

MIMCs are operationally defined as interventions that:

a) are manualized,

b) have unique features that create an intervention identity, and

c) share common features with other practices grouped within the superordinate EBP classification.

Manualized Interventions Meeting Criteria for EBPs (MIMCs)

NEW!

MIMC	Found in this Evidence Based Practice
PECS	Augmentative and Alternative Communication
JASPER	Naturalistic Intervention
Milieu Teaching	Naturalistic Intervention
Pivotal Response Training	Naturalistic Intervention
Project ImPACT	Parent-Mediated Intervention
Stepping Stones/Triple P	Parent-Mediated Intervention
Social Stories	Social Narratives
PEERS	Social Skills Training
FaceSay	Technology Aided Instruction and Intervention
Mindreading	Technology Aided Instruction and Intervention

Focused Interventions with Some Evidence from NCAEP Review Period (1990-2011)

NEW!

RECATEGORIZED INTO 2020 EBP CATEGORIES

FOCUSED INTERVENTION	FOUND IN EVIDENCE BASED PRACTICE
Aided Language Modeling	Augmentative and Alternative Communication
Cooperative Learning Groups	Peer-Based Instruction and Intervention
Handwriting without Tears	Modeling, Prompting and Visual Supports
Independent Work Systems	Visual Supports
Music Intensity	Antecedent Based Intervention
Reciprocal Imitation Training	Naturalistic Intervention
Schema-Based Strategy Instruction	Cognitive Behavioral/Instructional Strategies
Self-Regulated Strategy Development Writing Intervention	Cognitive Behavioral/Instructional Strategies
Sentence Combining Technique	Visual Supports
Test Taking Strategy Instruction	Cognitive Behavioral/Instructional Strategies
Theory of Mind Training	Social Skills Training
Toilet Training	Antecedent Based Intervention
Touch-Point Instruction	Visual Supports

Focused Interventions with Some Evidence from NCAEP Review Period (1990-2011)
RECATEGORIZED INTO 2020 EBP CATEGORIES

FOCUSED INTERVENTION	FOUND IN EVIDENCE BASED PRACTICE
Aided Language Modeling	Augmentative and Alternative Communication
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Schema-Based Strategy Instruction	Cognitive Behavioral/Instructional Strategies
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Sentence Combining Technique	Visual Supports
Test Taking Strategy Instruction	Cognitive Behavioral/Instructional Strategies
Theory of Mind Training	Social Skills Training
Toilet Training	Antecedent Based Intervention
Touch-Point Instruction	Visual Supports

Do Not Yet Have Sufficient Evidence to Meet Criteria for an EBP (page 31)

1990–2011 Review Period	Categorization for 1990–2017 Review Period	Description
Aided Language Modeling	Augmentative and Alternative Communication	Use of several augmentative and alternative communication strategies (e.g., pointing with finger, sequential pointing, use of communication symbol and vocalization together)
Cooperative Learning Groups	Peer-Based Instruction and Intervention	Academic learning tasks organized around joint activities and goals
Handwriting Without Tears	Modeling, Prompting, and Visual Supports	Multisensory activities promoting fine motor and writing skills
Independent Work Systems	Visual Supports	Organized sets of visual information that inform a learner about participation in an activity, includes clear specification of task(s), signals when task is finished, and a cue for the next activity
Music Intensity	Antecedent-Based Interventions	Different levels of music volume used to affect vocal stereotypy
Reciprocal Imitation Training	Naturalistic Intervention	Therapist or teacher repeats the actions, vocalizations, or other behaviors of the learner to promote learner's imitation and other goals
Schema-Based Strategy Instruction	Cognitive Behavioral/ Instructional Strategies	Cognitive strategy for establishing mental representations to promote addition and subtraction
Self-Regulated Strategy Development Writing Intervention	Cognitive Behavioral/ Instructional Strategies	Instructional package involving explanation of strategy and self-management to teach writing skills
Sentence-Combining Technique	Visual Supports	Instructional package including teacher modeling, student practice, and worksheet to increase adjective use in writing
Test Taking Strategy Instruction	Cognitive Behavioral/ Instructional Strategies	Instructional package involving modeling, mnemonic devices, verbal practice sessions, controlled practice sessions, advanced practice sessions
Theory of Mind Training	Social Skills Treatment	Structured training and practice of using theory of mind skills that includes a parent component
Toilet Training	Antecedent-Based Intervention	Modification of toilet training program developed by Azrin and Foxx (1971)
Touch-Point Instruction	Visual Supports	Tactile and number line materials used to introduce math and numeracy concepts

Animal Assisted Intervention

Auditory Integration Training

Collaborative Model for Promoting Competence and Success (COMPASS)/Collaborative Coaching

Exposure

Massage/Touch Therapy

Matrix Training

Outdoor Adventure

Perceptual Motor

Person Centered Planning

Punishment

Sensory Diet

Systematic Transition in Education Programme for ASD (STEP-ASD)

EBPs and DEFINITIONS OF 28 EBPs
Table 3.1 Pages 29-30

Table 3.1 Evidence-based practices, definitions, and number of articles across review periods

Evidence-Based Practice	Definition	Empirical Support		
		1990-2011 (n)	2012-2017 (n)	1990-2017 (n)
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.	29	20	49
Augmentative and Alternative Communication (AAC)	Interventions using and/or teaching the use of a system of communication that is not verbal/vocal which can be aided (e.g., device, communication book) or unaided (e.g., sign language)	9	35	44
Behavioral Momentum Intervention (BMI)	The organization of behavior expectations in a sequence in which low probability, or more difficult, responses are embedded in a series of high probability, or less effortful, responses to increase persistence and the occurrence of the low probability responses.	8	4	12
Cognitive Behavioral/ Instructional Strategies (CBIS)	Instruction on management or control of cognitive processes that lead to changes in behavioral, social, or academic behavior.	7	43	50
Differential Reinforcement of Alternative, Incompatible, or Other Behavior (DR)	A systematic process that increases desirable behavior or the absence of an undesirable behavior by providing positive consequences for demonstration/non-demonstration of such behavior. These consequences may be provided when the learner is:a) engaging in a specific desired behavior other than the undesirable behavior (DRA), b) engaging in a behavior that is physically impossible to do while exhibiting the undesirable behavior (DRI), or c) not engaging in the undesirable behavior (DRO).	27	31	58
Direct Instruction (DI)	A systematic approach to teaching using a sequenced instructional package with scripted protocols or lessons. It emphasizes teacher and student dialogue through choral and independent student responses and employs systematic and explicit error corrections to promote mastery and generalization.	2	6	8
Discrete Trial Training (DTT)	Instructional approach with massed or repeated trials with each trial consisting of the teacher's instruction/presentation, the child's response, a carefully planned consequence, and a pause prior to presenting the next instruction.	16	22	38
Exercise and Movement (EXM)	Interventions that use physical exertion, specific motor skills/ techniques, or mindful movement to target a variety of skills and behaviors.	6	11	17
Extinction (EXT)	The removal of reinforcing consequences of a challenging behavior in order to reduce the future occurrence of that behavior.	13	12	25
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.	11	10	21
Functional Communication Training (FCT)	A set of practices that replace a challenging behavior that has a communication function with more appropriate and effective communication behaviors or skills.	12	19	31
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.	10	18	28
Music-Mediated Intervention (MMI)	Intervention that incorporates songs, melodic intonation, and/or rhythm to support learning or performance of skills/behaviors. It includes music therapy, as well as other interventions that incorporate music to address target skills.	3	4	7
Naturalistic Intervention (NI)	A collection of techniques and strategies that are embedded in typical activities and/or routines in which the learner participates to naturally promote, support, and encourage target skills/behaviors.	26	49	75

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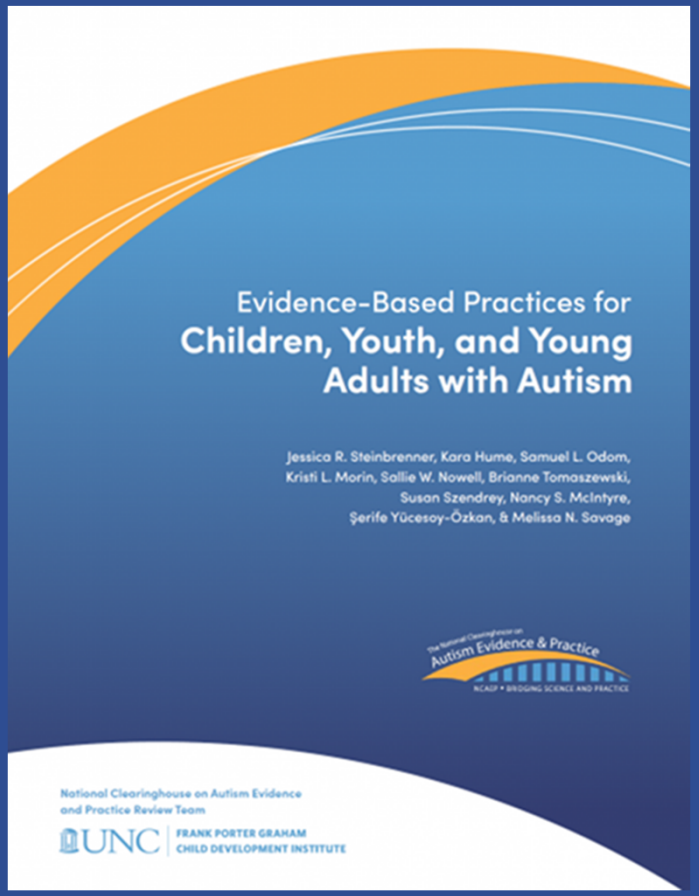
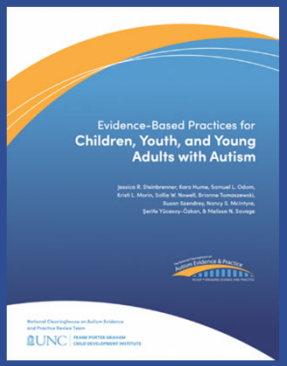
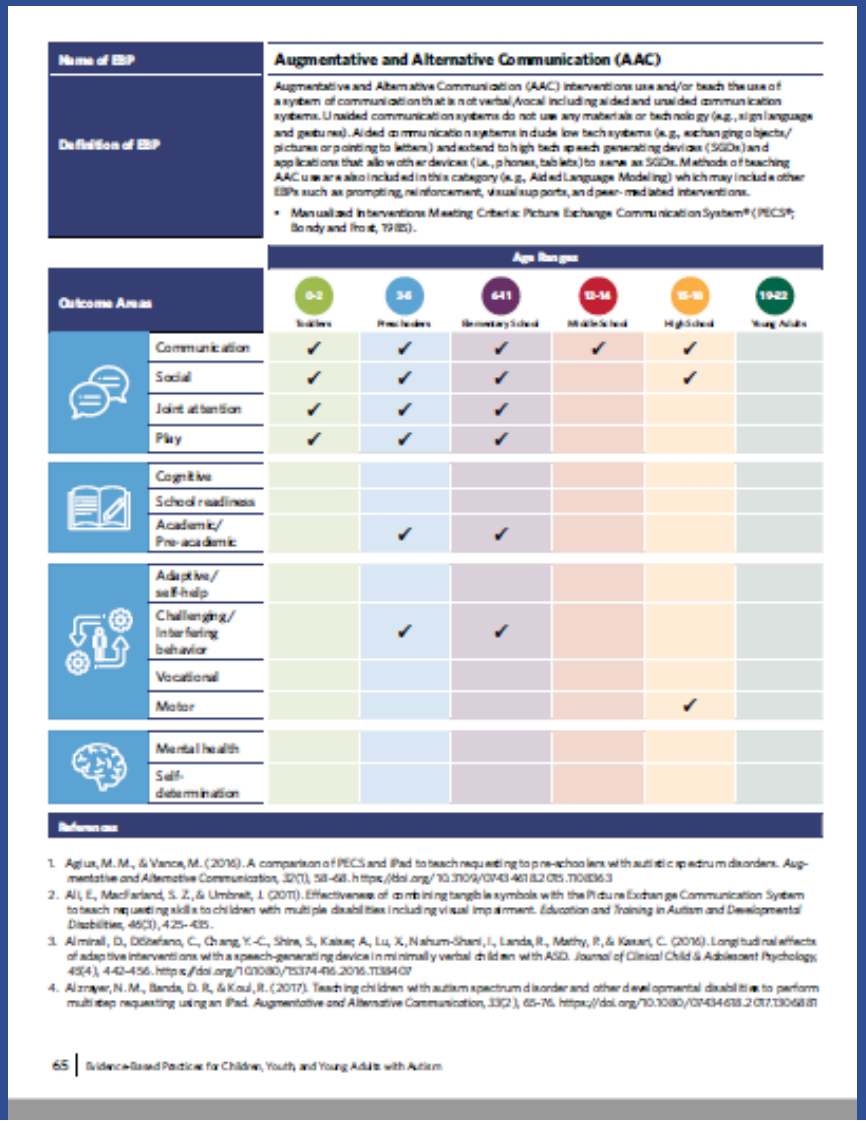


Here's a Closer Look
DEFINITIONS OF 28 EBPs

Evidence-Based Practice	Definition	Empirical Support		
		1990-2011 (n)	2012-2017 (n)	1990-2017 (n)
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.	29	20	**49**
Augmentative and Alternative Communication (AAC)	Interventions using and/or teaching the use of a system of communication that is not verbal/vocal which can be aided (e.g., device, communication book) or unaided (e.g., sign language)	9	35	**44**
Behavioral Momentum Intervention (BMI)	The organization of behavior expectations in a sequence in which low probability, or more difficult, responses are embedded in a series of high probability, or less effortful, responses to increase persistence and the occurrence of the low probability responses.	8	4	**12**
Cognitive Behavioral/ Instructional Strategies (CBIS)	Instruction on management or control of cognitive processes that lead to changes in behavioral, social, or academic behavior.	7	43	**50**
Differential Reinforcement of Alternative, Incompatible, or	A systematic process that increases desirable behavior or the absence of an undesirable behavior by providing positive consequences	27	31	**58**



INTERVENTION FACT SHEETS AVAILABLE FOR EACH OF THE 28 EBPs



Name of EBP

Augmentative and Alternative Communication (AAC)

Definition of EBP

Augmentative and Alternative Communication (AAC) interventions use and/or teach the use of a system of communication that is not verbal/vocal including aided and unaided communication systems. Unaided communication systems do not use any materials or technology (e.g., sign language and gestures). Aided communication systems include low tech systems (e.g., exchanging objects/pictures or pointing to letters) and extend to high tech speech generating devices (SGDs) and applications that allow other devices (i.e., phones, tablets) to serve as SGDs. Methods of teaching AAC use are also included in this category (e.g., Aided Language Modeling) which may include other EBPs such as prompting, reinforcement, visual supports, and peer-mediated interventions.

- Manualized Interventions Meeting Criteria: Picture Exchange Communication System® (PECS®; Bondy and Frost, 1985).

Age Ranges

Outcome Areas		0-2 Toddlers	3-5 Preschoolers	6-11 Elementary School	12-14 Middle School	15-18 High School	19-22 Young Adults
	Communication	✓	✓	✓	✓	✓	
	Social	✓	✓	✓		✓	
	Joint attention	✓	✓	✓			
	Play	✓	✓	✓			
	Cognitive						
	School readiness						
	Academic/ Pre-academic		✓	✓			
	Adaptive/ self-help						
	Challenging/ interfering behavior		✓	✓			
	Vocational						
	Motor					✓	
	Mental health						
	Self-determination						

References

1. Aglux, M. M., & Vance, M. (2016). A comparison of PECS and iPad to teach requesting to pre-schoolers with autistic spectrum disorders. *Augmentative and Alternative Communication, 32*(1), 58-68. https://doi.org/10.3109/07434618.2015.1108363
2. Ali, E., Macfarland, S. Z., & Umbreit, J. (2011). Effectiveness of combining tangible symbols with the Picture Exchange Communication System to teach requesting skills to children with multiple disabilities including visual impairment. *Education and Training in Autism and Developmental Disabilities, 46*(3), 425-435.
3. Almirall, D., DiStefano, C., Chang, Y.-C., Shire, S., Kaiser, A., Lu, X., Nahum-Shani, I., Landa, R., Mathy, P., & Kasari, C. (2016). Longitudinal effects of adaptive interventions with a speech-generating device in minimally verbal children with ASD. *Journal of Clinical Child & Adolescent Psychology, 45*(4), 442-456. https://doi.org/10.1080/15374416.2016.1138407
4. Alzrayer, N. M., Banda, D. R., & Koul, R. (2017). Teaching children with autism spectrum disorder and other developmental disabilities to perform multistep requesting using an iPad. *Augmentative and Alternative Communication, 33*(2), 65-76. https://doi.org/10.1080/07434618.2017.1306881

- **Definition of the intervention**
- **Age Range**
- **Outcome Areas**
- **References (specific articles that provide the evidence for the efficacy of the practice)**

28 EBPs Matrix Available on the CAPTAIN Website

www.captain.ca.gov

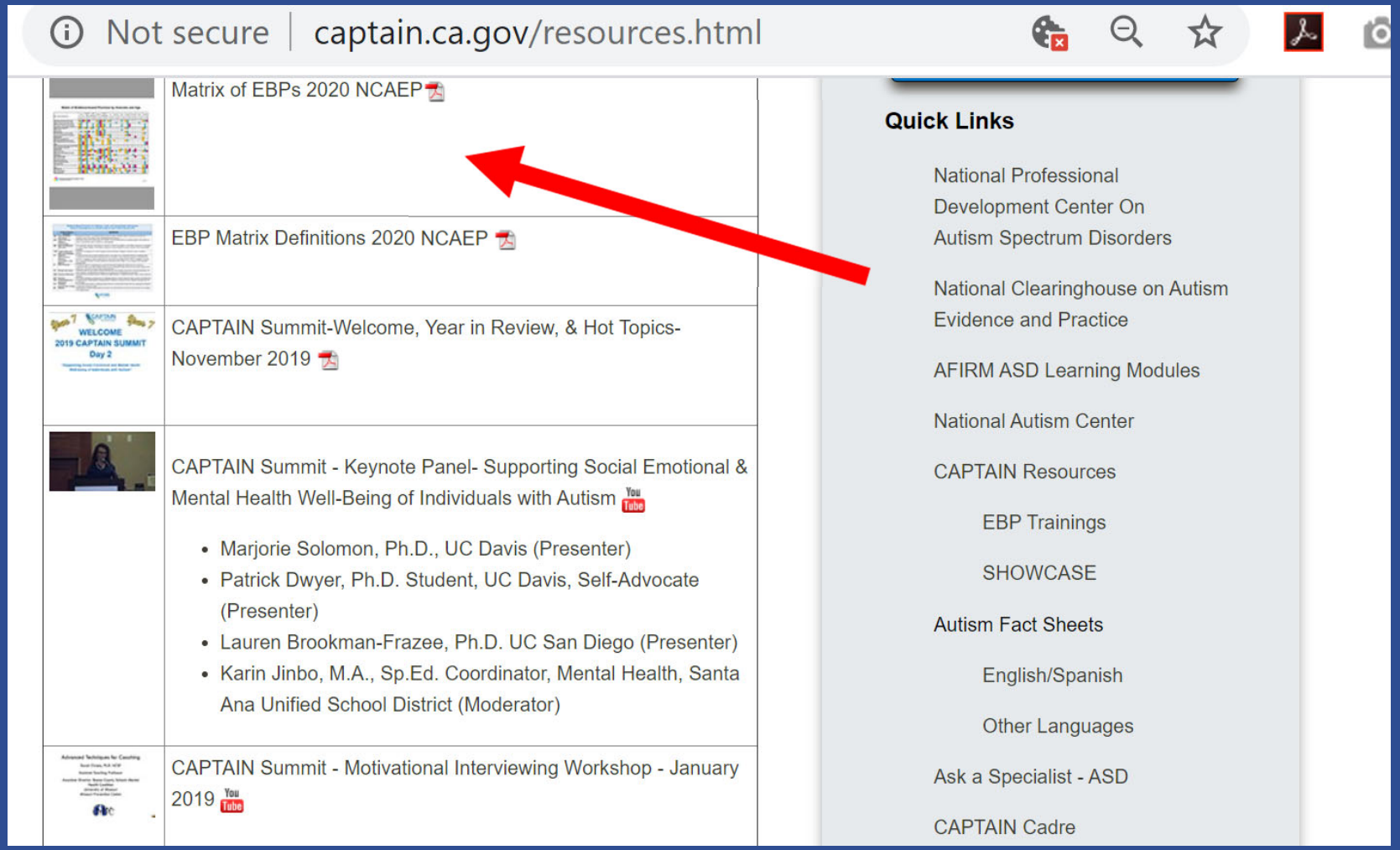


Table 3.7 Matrix of evidence-based practices, outcomes, and age categories

Evidence-Based Practices See Table 3.1 to link abbreviations to EBPs	Academic/ Pre-academic			Adaptive/ Self-help			Challenging/ Interfering behavior			Cognitive			Communi-cation			Joint attention			Mental health			Motor			Play			School readiness			Self-determination			Social			Vocational		
	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years	0-5 years	6-14 years	15-22 years
ABI																																						
AAC																																						
BMI																																						
CBIS																																						
DR																																						
DI																																						
DTT																																						
EXM																																						
EXT																																						
FBA																																						
FCT																																						
MD																																						
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PBII																																						
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R																																						
RIR																																						
SM																																						
SI																																						
SN																																						
SST																																						
TA																																						
TAII																																						
TD																																						
VM																																						
VS																																						

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EVIDENCE Based Practices Autism

EBP Definitions Chart on CAPTAIN website

Evidence-Based Practices for Children, Youth, and Young Adults with Autism National Clearinghouse on Autism Evidence and Practice Review 2020		
	Evidence-Based Practices	**DEFINITION**
ABI	**Antecedent-Based Interventions**	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.
AAC	**Augmentative and Alternative Communication**	Interventions using and/or teaching the use of a system of communication that is not verbal/vocal which can be aided (e.g., device, communication book) or unaided (e.g., sign language)
BMI	**Behavioral Momentum Intervention**	The organization of behavior expectations in a sequence in which low probability, or more difficult, responses are embedded in a series of high probability, or less effortful, responses to increase persistence and the occurrence of the low probability responses.
CBIS	**Cognitive Behavioral/ Instructional Strategies**	Instruction on management or control of cognitive processes that lead to changes in behavioral, social, or academic behavior.
DR	**Differential Reinforcement of Alternative, Incompatible, or Other Behavior**	A systematic process that increases desirable behavior or the absence of an undesirable behavior by providing positive consequences for demonstration/non-demonstration of such behavior. These consequences may be provided when the learner is: a) engaging in a specific desired behavior other than the undesirable behavior (DRA), b) engaging in a behavior that is physically impossible to do while exhibiting the undesirable behavior (DRI), or c) not engaging in the undesirable behavior (DRO).
DI	**Direct Instruction**	A systematic approach to teaching using a sequenced instructional package with scripted protocols or lessons. It emphasizes teacher and student dialogue through choral and independent student responses and employs systematic and explicit error corrections to promote mastery and generalization.
DTT	**Discrete Trial Training**	Instructional approach with massed or repeated trials with each trial consisting of the teacher's instruction/presentation, the child's response, a carefully planned consequence, and a pause prior to presenting the next instruction.
EXM	**Exercise and Movement**	Interventions that use physical exertion, specific motor skills/techniques, or mindful movement to target a variety of skills and behaviors.
EXT	**Extinction**	The removal of reinforcing consequences of a challenging behavior in order to reduce the future occurrence of that behavior.
FBA	**Functional Behavioral Assessment**	A systematic way of determining the underlying function or purpose of a behavior so that an effective intervention plan can be developed.
FCT	**Functional Communication Training**	A set of practices that replace a challenging behavior that has a communication function with more appropriate and effective communication behaviors or skills.
MD	**Modeling**	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.

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GOAL:
Rather than tantrumming or grabbing items that she needs/wants, Lucia (age 5, nonverbal) will request items and assistance from others on 8:10 daily opportunities as measured by teacher collected frequency data.

1. **What is the goal targeting?**

2. **What EBPs are options?**
   (refer to the EBP matrix)

What EBPs did you select?

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Autism

Implementation Fidelity is Critical!

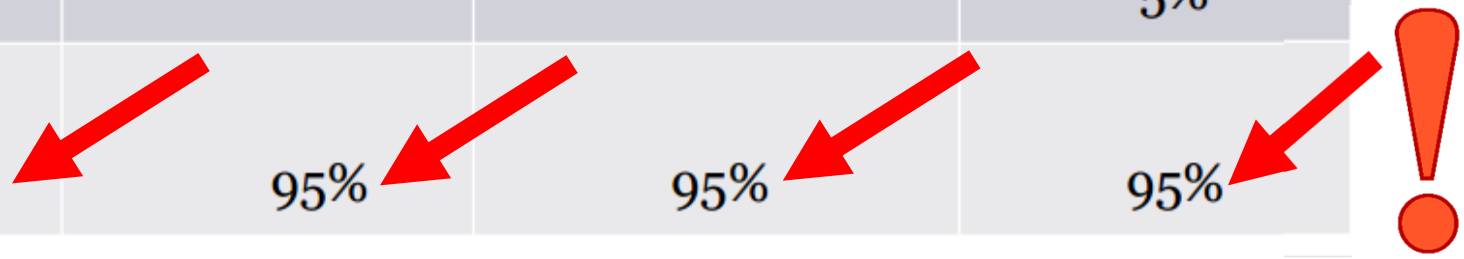
What does this mean?

"Implementing an intervention in the same manner in which it was done in the evidence-based research"

THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

Training Outcomes Related to Training Components

Training Components	Training Outcomes		
	Knowledge of Content	Skill Implementation	Classroom Application
Presentation/ Lecture	10%	5%	0%
Plus Demonstration in Training	30%	20%	0%
Plus Practice in Training	60%	60%	5%
Plus Coaching/ Admin Support Data Feedback	95%	95%	95%



Source:
Joyce, B., & Showers, B. (2002). Student achievement through staff development (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Implementation Fidelity is Critical!

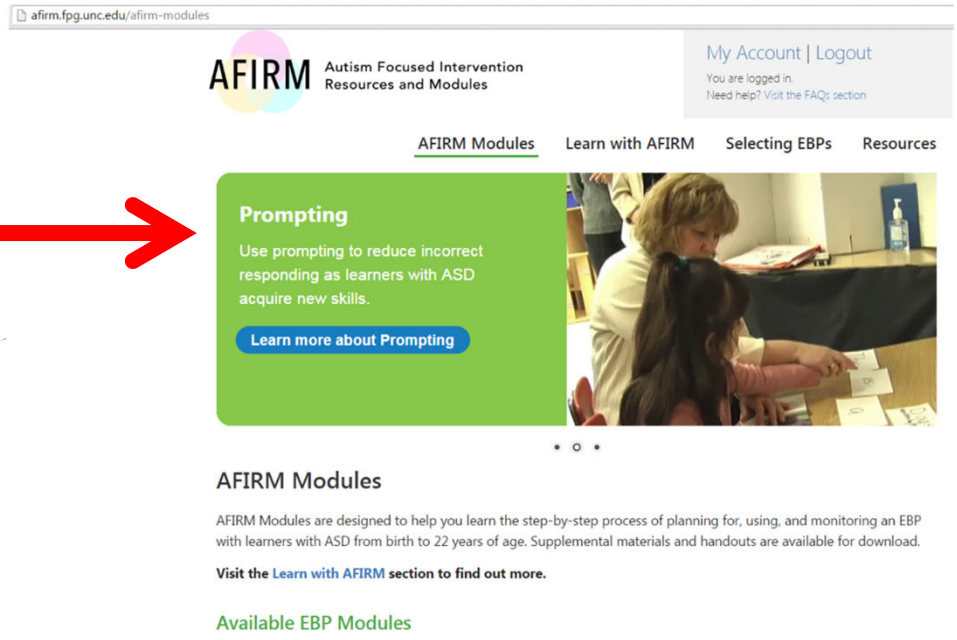
How implementation fidelity achieved:

1. Use Implementation Checklists for the EBP to capture fidelity of implementation by AFIRM
2. Refer to EBP Fact Sheets by NCAEP
3. Use reliable self-learning modules on EBPs-AFIRM
4. Attend training on the EBPs by CAPTAIN Cadre
5. Access coaching on the EBP until fidelity is attained

THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON AUTISM SPECTRUM DISORDERS

FREE High Quality Training:
Autism Focused Intervention Resources and Modules (AFIRM)

Designed to help you learn the step-by-step process of planning for, using, and monitoring EBPs with learners with ASD from birth to 22 years of age



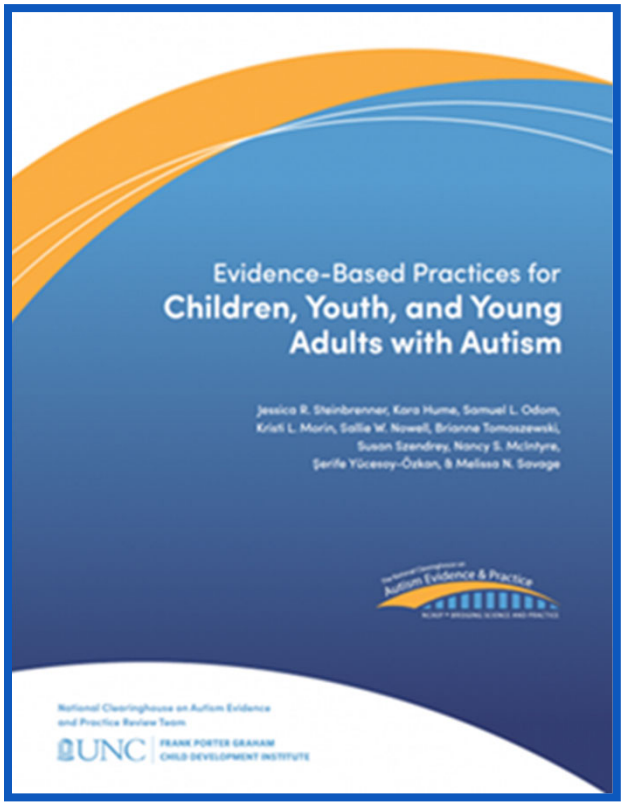
There's a Learning Module for most of the 28 EBPs

AFIRM Autism Focused Intervention Resources and Modules

www.captain.ca.gov
http://afirm.fpg.unc.edu/afirm-modules

NEW AFIRM MODULES COMING

"The next step for the NCAEP will be to use the new information to revise the AFIRM modules to reflect the most current scientific information about focused intervention practices."



AFIRM

Autism Focused Intervention Resources & Modules

AFIRM

Autism Focused Intervention Resources and Modules

What you'll learn with AFIRM Modules:

- Key components of an EBP
- Behaviors and skills that can be addressed
- A step-by-step process for applying the practice
- Specific resources that you can download and customize for your own use

AFIRM: Professional Development Certificate

BCBA (Approved BACB Type 2 CEUs)
SLP (ASHA CCCs)

Certificate Track

- Case examples demonstrating the use of the EBP
- Multimedia presentation
- Pre-test required
- Post-assessment required
- Evaluation required

Non-Certificate Track

- Case examples demonstrating the use of the EBP
- Multimedia presentation
- Pre-test required
- Post-assessment optional
- Evaluation optional

Helpful AFIRM Learning Module

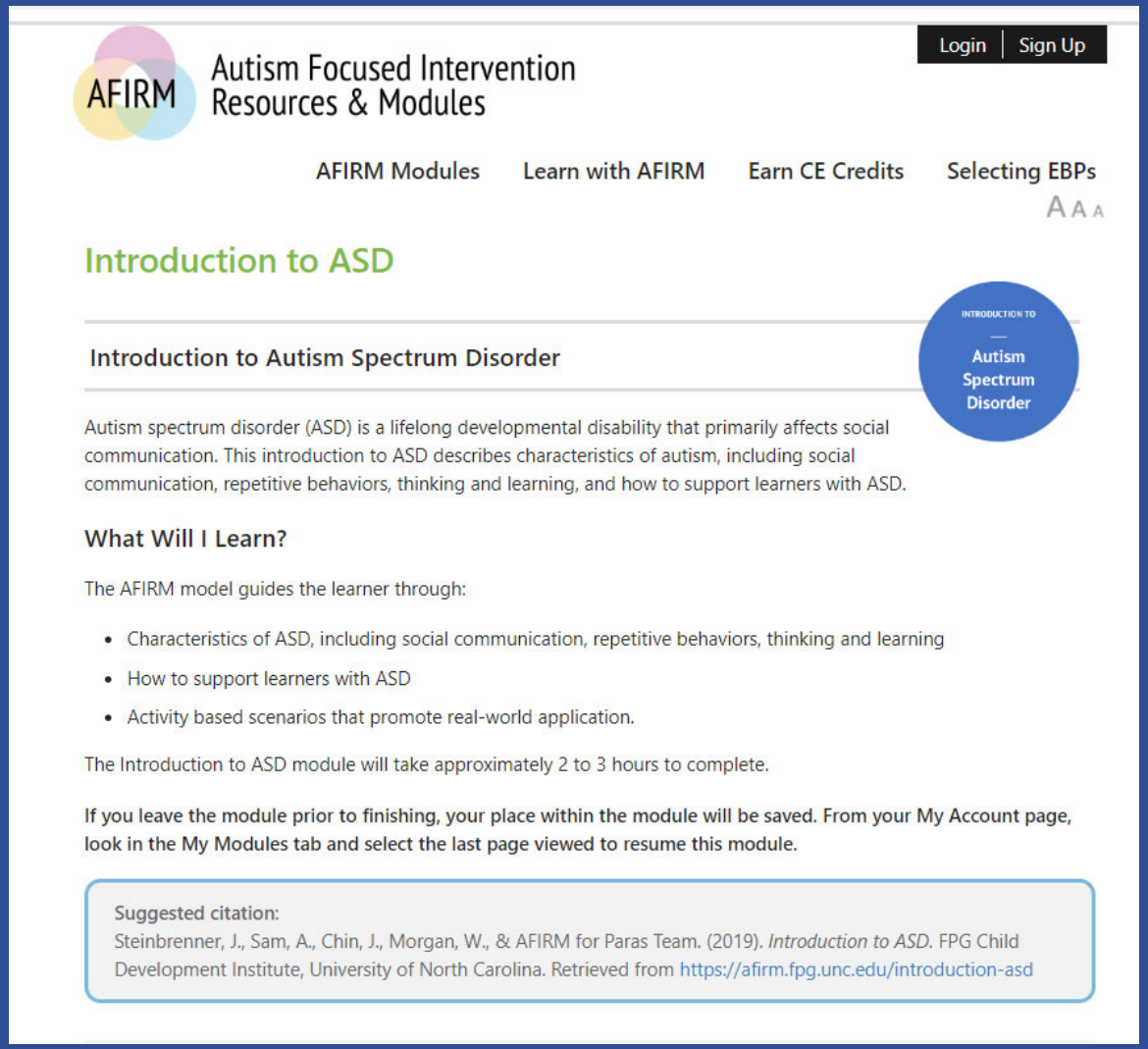
How to Select an EBP

http://afirm.fpg.unc.edu/selecting-ebp

Helpful AFIRM Learning Module

Introduction to ASD

https://afirm.fpg.unc.edu/node/2524



Autism Focused Intervention Resources & Modules

Login | Sign Up

AFIRM Modules Learn with AFIRM Earn CE Credits Selecting EBPs

A A A

Introduction to ASD

Introduction to Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a lifelong developmental disability that primarily affects social communication. This introduction to ASD describes characteristics of autism, including social communication, repetitive behaviors, thinking and learning, and how to support learners with ASD.

What Will I Learn?

The AFIRM model guides the learner through:

- Characteristics of ASD, including social communication, repetitive behaviors, thinking and learning
- How to support learners with ASD
- Activity based scenarios that promote real-world application.

The Introduction to ASD module will take approximately 2 to 3 hours to complete.

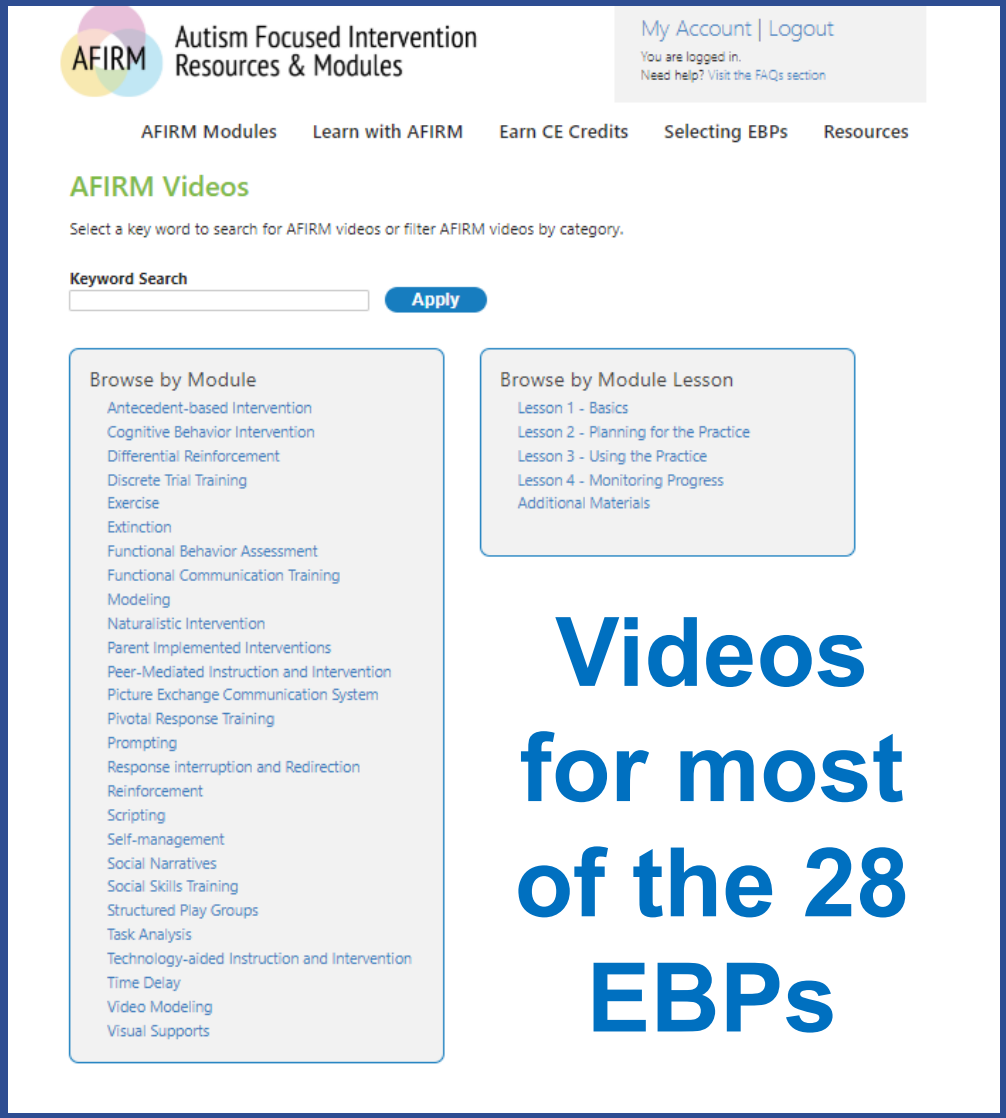
If you leave the module prior to finishing, your place within the module will be saved. From your My Account page, look in the My Modules tab and select the last page viewed to resume this module.

Suggested citation:
Steinbrenner, J., Sam, A., Chin, J., Morgan, W., & AFIRM for Paras Team. (2019). *Introduction to ASD*. FPG Child Development Institute, University of North Carolina. Retrieved from https://afirm.fpg.unc.edu/introduction-asd

AFIRM
Autism Focused Intervention Resources & Modules
My Account | Logout
You are logged in.
Need help? Visit the FAQs section
AFIRM Modules
Learn with AFIRM
Earn CE Credits
Selecting EBPs
Resources
AFIRM Resources
Select a key word to search for AFIRM resources or filter AFIRM resources by category.
Keyword Search
Apply
IMPLEMENTATION RESOURCES
Browse by Module
Antecedent-based Intervention
Cognitive Behavior Intervention
Differential Reinforcement
Discrete Trial Training
Exercise
Extinction
Functional Behavior Assessment
Functional Communication Training
Modeling
Naturalistic Intervention
Parent Implemented Interventions
Peer-Mediated Instruction and Intervention
Picture Exchange Communication System
Pivotal Response Training
Prompting
Response interruption and Redirection
Reinforcement
Scripting
Self-management
Social Narratives
Social Skills Training
Structured Play Groups
Task Analysis
Technology-aided Instruction and Intervention
Time Delay
Video Modeling
Visual Supports
Browse by Module Lesson
Lesson 1 - Basics
Lesson 2 - Planning for the Practice
Lesson 3 - Using the Practice
Lesson 4 - Monitoring Progress
Additional Materials
Browse by Document Type
Evidence-base
Implementation checklist
Parent's guide
Professional standards
Step-by-Step practice guide
Tip sheet for professionals
EBP Brief Packet
Implementation Checklists
AFIRM Videos
Browse Videos
EBP Videos

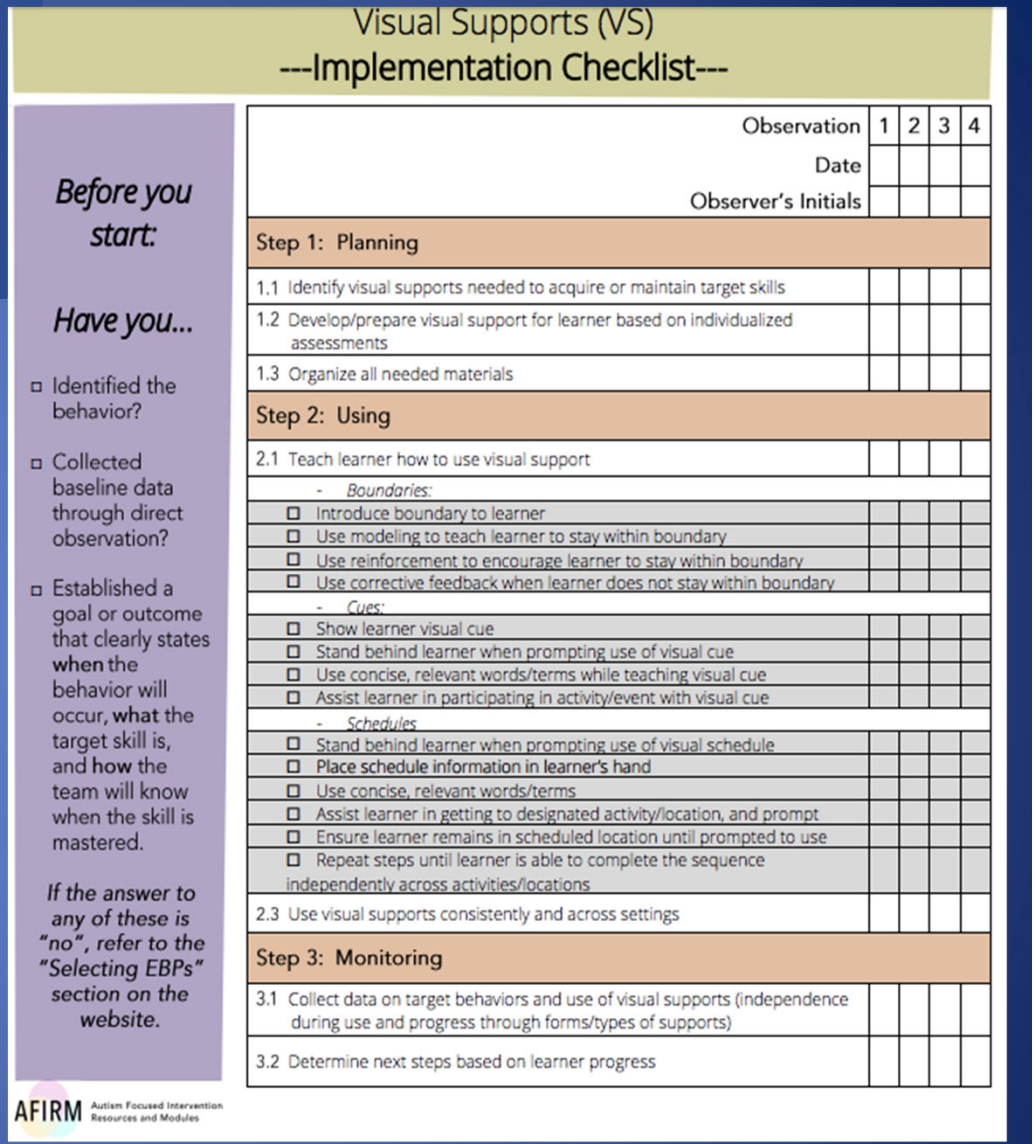
AFIRM VIDEOS of Evidence-Based Practices

https://afirm.fpg.unc.edu/afirm-videos



Implementation Checklist Ensures Fidelity

- Used to assist with planning for EBP use
- Helps implementers self reflect on fidelity of use
- Helps coaches give objective feedback
- Helps to prevent drift



Visual Supports (VS)
---Implementation Checklist---

Before you start:

Have you...

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

If the answer to any of these is "no", refer to the "Selecting EBPs" section on the website.

AFIRM Autism Focused Intervention Resources and Modules

	Observation	1	2	3	4
	Date				
	Observer's Initials				
Step 1: Planning					
1.1	Identify visual supports needed to acquire or maintain target skills				
1.2	Develop/prepare visual support for learner based on individualized assessments				
1.3	Organize all needed materials				
Step 2: Using					
2.1	Teach learner how to use visual support				
	- *Boundaries:*				
	☐ Introduce boundary to learner				
	☐ Use modeling to teach learner to stay within boundary				
	☐ Use reinforcement to encourage learner to stay within boundary				
	☐ Use corrective feedback when learner does not stay within boundary				
	- *Cues:*				
	☐ Show learner visual cue				
	☐ Stand behind learner when prompting use of visual cue				
	☐ Use concise, relevant words/terms while teaching visual cue				
	☐ Assist learner in participating in activity/event with visual cue				
	- *Schedules*				
	☐ Stand behind learner when prompting use of visual schedule				
	☐ Place schedule information in learner's hand				
	☐ Use concise, relevant words/terms				
	☐ Assist learner in getting to designated activity/location, and prompt				
	☐ Ensure learner remains in scheduled location until prompted to use				
	☐ Repeat steps until learner is able to complete the sequence independently across activities/locations				
2.3	Use visual supports consistently and across settings				
Step 3: Monitoring					
3.1	Collect data on target behaviors and use of visual supports (independence during use and progress through forms/types of supports)				
3.2	Determine next steps based on learner progress				

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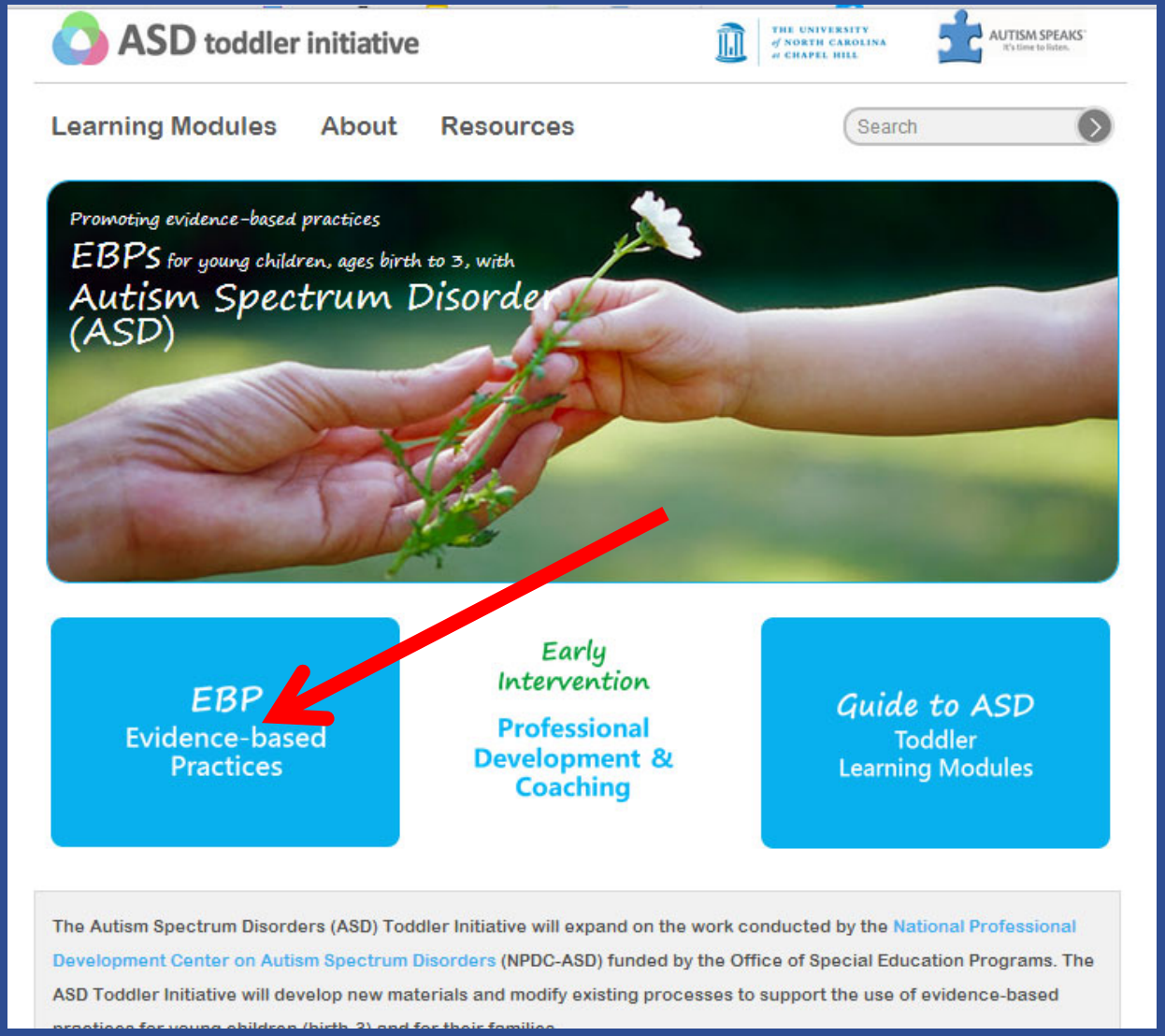
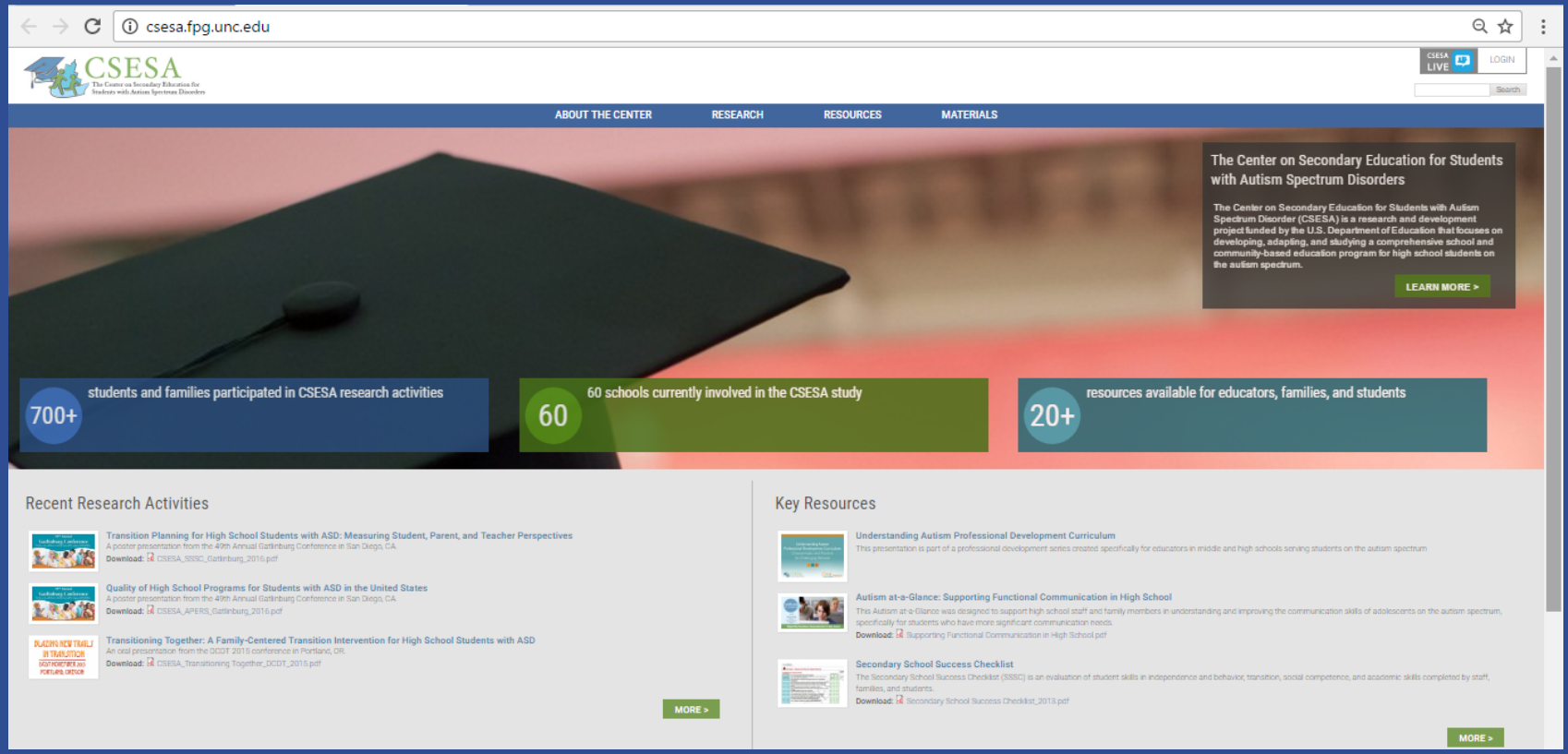
SELF LEARNING MODULES FOR TODDLERS!
NPDC-ASD Early Start Website
http://asdtoddler.fpg.unc.edu



Resources for Older Individuals with ASD

CSESA
The Center on Secondary Education for Students with Autism Spectrum Disorders



www.captain.ca.gov
http://csesa.fpg.unc.edu

Presentation 1:

Example of Resources

Characteristics and Practices for Challenging Behavior

*NOTE: If you have having difficulty with the video links embedded as part of the presentation, link to the v
on this page: http://csesa.fpg.unc.edu/understanding-autism-presentation-1-videos

- Facilitator Notes
- Participant Handout
- Activity Worksheet
- At My School Worksheet

Please review this notification of a video change made for Presentation 1, Repetitive Behaviors and Restricted Interests vide
(slide 17).

Presentation 2:

Strategies for Classroom Success and Effective Use of Teacher Supports

Autism at-a-Glance series

Example of Resources

Autism at-a-Glance: Supporting Success and Safety in Relationships

This Autism at-a-Glance was designed to support high school staff, family members, and individuals on the autism spectrum in understanding and supporting success and safety in dating relationships.

Download: Supporting Success and Safety in Relationships.pdf

Autism at-a-Glance: Exercise for Adolescents with ASD

This Autism at-a-Glance was designed to support high school staff and family members in understanding the benefits of exercise for adolescents on the autism spectrum, as well as provide tips and resources to help create successful exercise routines.

Download: Exercise for Adolescents with ASD.pdf

Autism at-a-Glance: Depression in Adolescents with ASD

This Autism at-a-Glance was designed to support high school staff and family members in understanding and recognizing symptoms of depression, and

Autism at-a-Glance: Supporting Communication in High School

This issue of Autism at-a-Glance focuses on understanding and improving the communication skills of adolescents on the autism spectrum and specifically targets the needs of students who are able to communicate conversationally.

Download: Supporting Communication in High School.pdf

Autism at-a-Glance: Supporting Functional Communication in High School

This Autism at-a-Glance was designed to support high school staff and family members in understanding and improving the communication skills of adolescents on the autism spectrum, specifically for students who have more significant communication needs.

Download: Supporting Functional Communication in High School.pdf

Autism at-a-Glance: Getting a Driver's License

This Autism at-a-Glance was designed to support parents and other family members in supporting adolescents on the autism spectrum as they learn to drive and eventually take a driver's test for their license.

Download: Getting a Driver License.pdf

Use these Quick Links on the CAPTAIN website to access these FREE EBP resources!

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2 IMPORTANT ASD EBP RESOURCES

National Clearinghouse on Autism Evidence and Practice (NCAEP)	National Autism Center (NAC)
1. 28 Evidence Based Practices 2. AFIRM 3. CSESA 4. EBPs for Young Children	1. National Standards Project Report-Phase 2 NSP2
Released April 2020	Released April 2015
https://ncaep.fpg.unc.edu/ http://afirm.fpg.unc.edu http://csesa.fpg.unc.edu http://asdtoddler.fpg.unc.edu www.captain.ca.gov	www.nationalautismcenter.org www.captain.ca.gov

Now let's talk about the NAC review!

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- Based on research conducted in the field from 2007 to February 2012
- Provides an update to the previously published summary of empirical treatment literature (2009)
- 351 articles (ages 0-22) and 27 articles (ages 22+) included studies if the interventions could be implemented in or by school systems, early intervention, home, hospital, vocational. and/or community-based programs or in clinic settings

www.nationalautismcenter.org

Strength of Evidence Classification System

Established:

Sufficient evidence is available to confidently determine that an intervention produces favorable outcomes for individuals on the autism spectrum. That is, these interventions are established as effective.

Emerging:

Although one or more studies suggest that an intervention produces favorable outcomes for individuals with ASD, additional high quality studies must consistently show this outcome before we can draw firm conclusions about intervention effectiveness.

Unestablished:

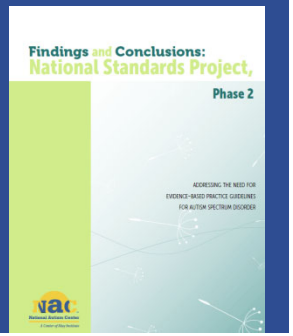
There is little or no evidence to allow us to draw firm conclusions about intervention effectiveness with individuals with ASD. Additional research may show the intervention to be effective, ineffective, or harmful.

The National Standards Project-Phase 2 (NSP2)

National Autism Center

Overall Findings for Individuals Under Age 22

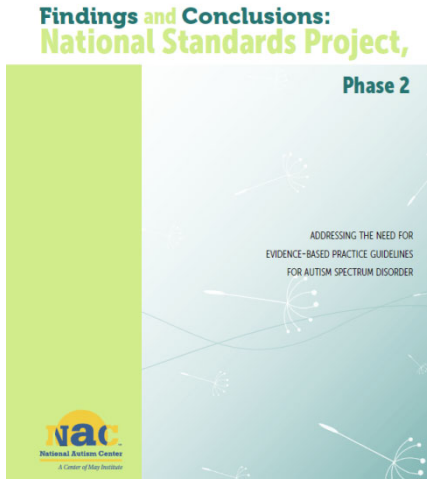
- 14 Established Interventions
- 18 Emerging Interventions
- 13 Unestablished Interventions



The following interventions have been identified as falling into the Established level of evidence:

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

14 ESTABLISHED INTERVENTIONS
(for individuals under age 22)



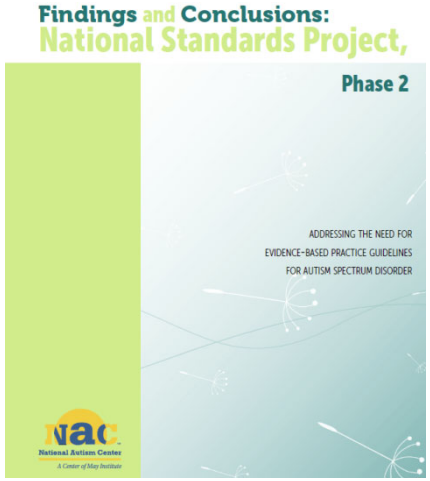
Emerging Interventions are those for which one or more studies suggest they may produce favorable outcomes. However, before we can be fully confident that the interventions are effective, additional high quality studies are needed that consistently show these interventions to be effective for individuals with ASD. Based on the available evidence, we are not yet in a position to rule out the possibility that Emerging Interventions are, in fact, not effective.

A large number of studies fall into the Emerging level of evidence. We believe scientists should find fertile ground for further research in these areas.

The following interventions have been identified as falling into the Emerging level of evidence:

- Augmentative and Alternative Communication Devices
- Developmental Relationship-based Treatment
- Exercise
- Exposure Package
- Functional Communication Training
- Imitation-based Intervention
- Initiation Training
- Language Training (Production & Understanding)
- Massage Therapy
- Multi-component Package
- Music Therapy
- Picture Exchange Communication System
- Reductive Package
- Sign Instruction
- Social Communication Intervention
- Structured Teaching
- Technology-based Intervention
- Theory of Mind Training

18 EMERGING INTERVENTIONS (for individuals under age 22)

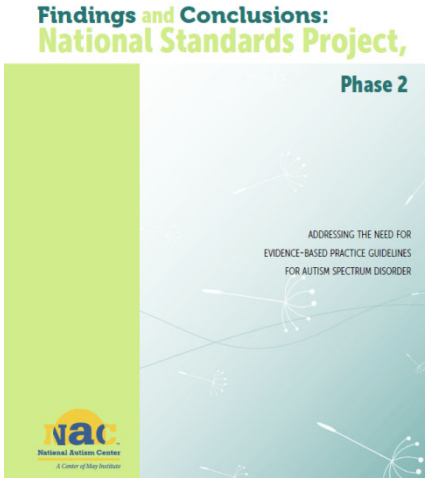


Unestablished Interventions are those for which there is little or no evidence in the scientific literature that allows us to draw firm conclusions about their effectiveness with individuals with ASD. There is no reason to assume these interventions are effective. Further, there is no way to rule out the possibility these interventions are ineffective or harmful.

The following interventions have been identified as falling into the Unestablished level of evidence:

- Animal-assisted Therapy
- Auditory Integration Training
- Concept Mapping
- DIR/Floor Time
- Facilitated Communication
- Gluten-free/Casein-free diet
- Movement-based Intervention
- SENSE Theatre Intervention
- Sensory Intervention Package
- Shock Therapy
- Social Behavioral Learning Strategy
- Social Cognition Intervention
- Social Thinking Intervention

13 UNESTABLISHED INTERVENTIONS (for individuals under age 22)



Research Findings for Adults (22+ Years)

Only 1 Established for individuals 22+

Established Interventions for Adults

The only intervention to be identified as Established for individuals ages 22 years and older is Behavioral Interventions. The Behavioral Intervention category consists of applied behavior analytic interventions to increase adaptive behaviors and decrease challenging behaviors. Examples of specific strategies identified in the 17 articles supporting Behavioral Interventions are provided in the table on the following page.

Emerging Interventions for Adults

Emerging Interventions are those for which one or more studies suggest they may produce favorable outcomes. However, before we can be fully confident that the interventions are effective, additional high quality studies are needed that consistently show these interventions to be effective for individuals with ASD. Based on the available evidence, we are not yet in a position to rule out the possibility that Emerging Interventions are, in fact, not effective.

The following intervention has been identified as falling into the Emerging level of evidence:

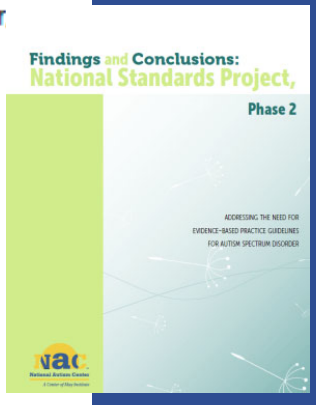
- Vocational Training Package

Unestablished Interventions for Adults

Unestablished Interventions are those for which there is little or no evidence in the scientific literature that allows us to draw firm conclusions about their effectiveness with individuals with ASD. There is no reason to assume these interventions are effective. Further there is no way to rule out the possibility these interventions are ineffective or harmful.

The following interventions have been identified as falling into the Unestablished level of evidence:

- Cognitive Behavioral Intervention Package
- Modeling
- Music Therapy
- Sensory Integration Package



NSP2
Example of EBP

Modeling

Established Intervention

One of the most effective ways to teach someone what to do is to show him or her how to do it. The goal of modeling is to correctly demonstrate a target behavior to the person learning the new skill, so that person can then imitate the model. Children can learn a great deal from observing the behavior of parents, siblings, peers, and teachers, but they often need to be taught what behaviors should be imitated.

Basic Facts

Number of articles reviewed:

NSP1 = 51 NSP2 = 28

Effective ages: Children and adolescents 3-18 years

Skills increased:

- higher cognitive functions (NSP1)
- academic (NSP2)
- communication, interpersonal, personal responsibility, and play (NSP1&2)

Behaviors decreased:

- problem behaviors (NSP1)
- sensory or emotional regulation (NSP1)

Detailed Description

There are two types of modeling—live and video modeling.

Live modeling occurs when a person demonstrates the target behavior in the presence of the child with autism spectrum disorder (ASD). When providing live modeling:

- Clearly outline, in writing, the target behavior to model.
- Ensure all individuals modeling the target behavior are doing so in a consistent manner. It may be helpful for parents/caregivers/therapists to practice together to make certain each person provides the same model.
- Obtain the child's attention prior to modeling the target behavior.
- Develop a plan to fade or stop the use of modeling to encourage the child to independently display the target behavior.

Video modeling occurs when you pre-record a person demonstrating the target behavior. Video modeling can be a great option for children/adolescents with an affinity for television shows, movies, or interest in seeing themselves on a monitor (i.e., television screen, computer monitor, video recorder monitor). Some children/adolescents may enjoy assisting in the production of the video.

NSP2
Recommendations For Intervention Selection

ESTABLISHED INTERVENTIONS

"have sufficient evidence of effectiveness"

"We recommend the decision-making team give serious consideration to these interventions because:

- these interventions have produced beneficial effects for individuals involved in the research studies published in the scientific literature
- access to interventions that work can be expected to produce more positive long-term outcomes
- there is no evidence of harmful effects

However, it should not be assumed that these interventions will universally produce favorable outcomes for all individuals with ASD"

NSP2
Recommendations For Intervention Selection

EMERGING INTERVENTIONS

"We generally do not recommend beginning with these interventions

However, Emerging Interventions should be considered promising and warrant serious consideration if Established Interventions are deemed inappropriate by the decision-making team, or were unsuccessful in producing positive outcomes"

NSP2
Recommendations For Intervention Selection

UNESTABLISHED INTERVENTIONS

"Unestablished Interventions either have no research support or the research that has been conducted does not allow us to draw firm conclusions about intervention effectiveness for individuals with ASD.

When this is the case, decision-makers simply do not know if this intervention is effective, ineffective, or harmful because researchers have not

conducted any or enough high-quality research.

Given how little is known about these interventions, **we would recommend considering these interventions only after additional research has been conducted** and this research reveals favorable outcomes for individuals with ASD."

HOW DO THESE TWO REVIEWS COMPARE? *NCAEP (2020) AND NSP (2015)*

“There continues to be a substantial overlap in EBPs identified by these two independent reviews.”

-Page 48 of the NCAEP Report

Overlap Chart Between Evidence Based Practices Identified by NCAEP and NSP

Evidence-Based Practices Identified (NCAEP)	Established Interventions Identified by NSP													
	Behavioral Interventions	Cognitive Behavioral Intervention Package	Modeling	Naturalistic Teaching Strategies	Parent Training	Peer Training Package	Pivotal Response Treatment®	Schedules	Scripting	Self-management	Social Skills Package	Story-based Intervention	Language Training (Production)	Comprehensive Behavioral Treatment for Young Children
Antecedent-Based Intervention (ABI)	✓												Language training did not emerge as a focused intervention by the NCAEP. Components of Language Training (Production) overlap with NCAEP identified practices that may support language production, such as modeling, prompting, reinforcement, visual supports, and music-mediated interventions.	The NCAEP did not review comprehensive treatment models. Components of the Comprehensive Behavioral Treatment of Young Children may overlap with many NCAEP identified practices, such as discrete trial training, modeling, prompting, time delay, and behavior momentum intervention.
Cognitive Behavioral Instructional Strategies (CBIS)		✓												
Differential Reinforcement (DR)	✓													
Discrete Trial Training (DTT)	✓													
Extinction (EXT)	✓													
Modeling (MD)	✓		✓											
Naturalistic Interventions (NI)				✓			✓							
Parent-Implemented Interventions (PII)					✓									
Peer-Based Instruction & Intervention (PBII)						✓								
Prompting (PP)	✓								✓					
Reinforcement (R)	✓													
Response Interruption & Redirection (RIR)	✓													
Self-Management (SM)										✓				
Social Narratives (SN)												✓		
Social Skills Training (SST)											✓			
Task Analysis (TA)	✓													
Time Delay (TD)	✓													
Video Modeling (VM)	✓		✓											
Visual Supports (VS)	✓							✓	✓					
Augmentative & Alternative Communication (AAC)	Identified as an emerging intervention by the NSP.													
Exercise & Movement (EXM)	Identified as an emerging intervention by the NSP.													
Functional Communication Training (FCT)	Identified as an emerging intervention by the NSP.													
Music-Mediated Interventions (MMI)	Identified as an emerging intervention by the NSP.													
Technology-aided Instruction & Intervention (TAII)	Identified as an emerging intervention by the NSP.													
Behavior Momentum Intervention (BMI)	The NSP did not consider this as a catergory for intervention.													
Direct Instruction (DI)	The NSP did not consider this as a catergory for intervention.													
Functional Behavior Assessment (FBA)	The NSP did not consider this as a catergory for intervention.													
Sensory Integration® (SI)	The NSP did not consider this as a catergory for intervention.													

Table 4.3 Page 49 of the NCAEP Report

CAPTAIN Recommends

- Use 28 EBPs from NCAEP
- Use 14 Established Interventions for Ages 0-22 from NAC
- Use 1 Established Intervention for Ages 22+ from NAC

2 IMPORTANT ASD EBP RESOURCES

National Clearinghouse on Autism Evidence and Practice (NCAEP)	National Autism Center (NAC)
1. 28 Evidence Based Practices 2. AFIRM 3. CSESA 4. EBPs for Young Children **Released April 2020**	1. National Standards Project Report-Phase 2 NSP2 **Released April 2015**
https://ncaep.fpg.unc.edu/ http://afirm.fpg.unc.edu http://csesa.fpg.unc.edu http://asdtoddler.fpg.unc.edu www.captain.ca.gov	www.nationalautismcenter.org www.captain.ca.gov

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Why are these two EBP resources so important?

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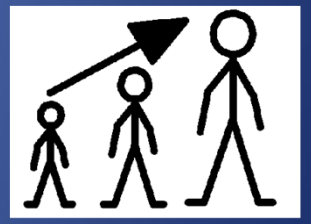
SELPA Content Lead
EVIDENCE
Based Practices
Autism

Knowing of these EBPs:

- helps us know which treatments have evidence of effectiveness and which treatments do not

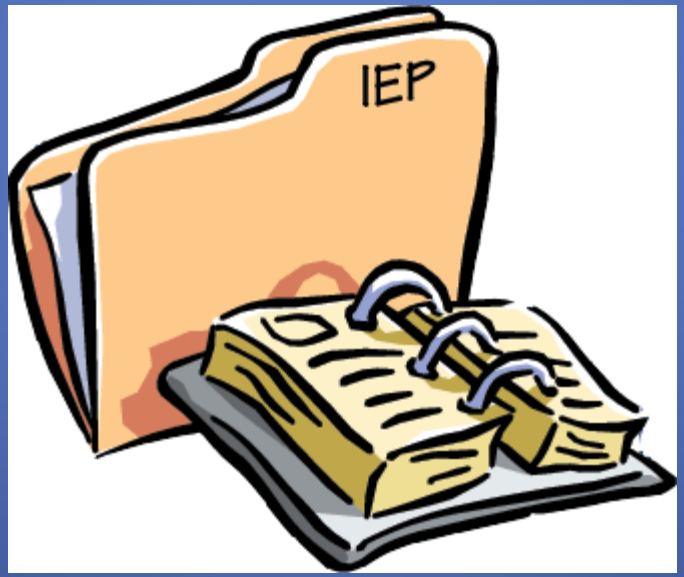
- allows us to make informed decisions when we select treatments



- provides us with the opportunity to support individuals with ASD in reaching their full potential

Implementing EBPs goes right along with……

The Individuals with Disabilities Education Act (IDEA)



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SELPA Content Lead
EVIDENCE Based Practices Autism

IDEA 2004 * Sec. 300.320
Definition of Individualized Education Program……

,,,,,(4) A statement of the special education and related services and supplementary aids and services, **based on peer-reviewed research** to the extent practicable, to be provided to the child, or on behalf of the child, and a statement of the program modifications or supports for school personnel that will be provided to enable the child--

(i) To advance appropriately toward attaining the annual goals;

(ii) To be involved in and make progress in the general education curriculum in accordance with paragraph (a)(1) of this section, and to participate in extracurricular and other nonacademic activities; and

(iii) To be educated and participate with other children with disabilities and nondisabled children in the activities described in this section;…….

IDEA 2004
Part C: Infants and Toddlers with Disabilities

SEC. 635. REQUIREMENTS FOR STATEWIDE SYSTEM

(a) In General.--A statewide system described in section 633 shall include, at a minimum, the following components:

(2) A State policy that is in effect and that ensures that appropriate **early intervention services based on scientifically based research**, to the extent practicable, are available to all infants and toddlers with disabilities and their families, including Indian infants and toddlers with disabilities and their families residing on a reservation geographically located in the State and infants and toddlers with disabilities who are homeless children and their families.

SEC. 636. INDIVIDUALIZED FAMILY SERVICE PLAN

(d) Content of Plan.--The individualized family service plan shall be in writing and contain--

(4) a statement of specific **early intervention services based on peer-reviewed research**, to the extent practicable, necessary to meet the unique needs of the infant or toddler and the family, including the frequency, intensity, and method of delivering services;

Every Student Succeeds Act (ESSA) S.1177-290

(21) **EVIDENCE-BASED.—**

(A) IN GENERAL.—Except as provided in subparagraph

(B), the term **'evidence-based',** when used with respect to a State, local educational agency, or school activity, **means an activity, strategy, or intervention that—**

(i) **demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes based on**—

I) **strong evidence** from at least 1 well designed and well-implemented experimental study;

II) **moderate evidence** from at least 1 well designed and well-implemented quasi-experimental study; or

(III) **promising evidence** from at least 1 well designed and well-implemented correlational study with statistical controls for selection bias; or

(ii)(I) demonstrates a rationale **based on high quality research findings** or positive evaluation that such activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes; and

(II) includes ongoing efforts to examine the effects of such activity, strategy, or intervention.

Definition of Evidence-based in ESSA

EVIDENCE-BASED.— (A) IN GENERAL.—Except as provided in subparagraph (B), the term 'evidence-based', when used with respect to a State, local educational agency, or school activity, means an activity, strategy, or intervention that—

(i) demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes based on—

(I) strong evidence from at least 1 well-designed and well-implemented experimental study;

(II) moderate evidence from at least 1 well-designed and well-implemented quasi-experimental study; or

(III) promising evidence from at least 1 well-designed and well-implemented correlational study with statistical controls for selection bias; or

(ii)(I) demonstrates a rationale based on high-quality research findings or positive evaluation that such activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes; and

(II) includes ongoing efforts to examine the effects of such activity, strategy, or intervention.

(B) DEFINITION FOR SPECIFIC ACTIVITIES FUNDED UNDER THIS ACT.—When used with respect to interventions or improvement activities or strategies funded under section 1003, the term 'evidence-based' means a State, local educational agency, or school activity, strategy, or intervention that meets the requirements of subclause (I), (II), or (III) of subparagraph (A)(i).

CA ED CODE 56345

(4) A statement of the special education and related services and supplementary aids and services, based on **peer-reviewed research** to the extent practicable, to be provided to the pupil, or on behalf of the pupil, and a statement of the program modifications or supports for school personnel that will be provided to enable the pupil to do the following:
(A) To advance appropriately toward attaining the annual goals.
(B) To be involved in and make progress in the general education curriculum in accordance with paragraph (1) and to participate in extracurricular and other nonacademic activities.
(C) To be educated and participate with other individuals with exceptional needs and nondisabled pupils in the activities described in this subdivision.

Implementing EBPs goes right along with CA Senate Bill 946

Health and Safety Code Section 1374.73 (4)(c)(1)
Insurance Code Section 10144.51 (4)(c)(1)

"Behavioral health treatment" means professional services and treatment programs, including applied behavior analysis and **evidence-based behavior intervention programs**, that develop or restore, to the maximum extent practicable, the functioning of an individual with pervasive developmental disorder or autism and that meet all of the following criteria…"

Implementing EBPs goes right along with the CA Lanterman Act

"4686.2. (b) Effective July 1, 2009, notwithstanding any other provision of law or regulation to the contrary, regional centers shall:
(1) Only purchase ABA services or intensive behavioral intervention services that reflect **evidence-based practices**, promote positive social behaviors, and ameliorate behaviors that interfere with learning and social interactions…"

Implementing EBPs goes right along with CA Lanterman Act…

“4686.2. (d) (3) "**Evidence-based practice**" means a decision making process that integrates the best available scientifically rigorous research, clinical expertise, and individual's characteristics. **Evidence-based practice** is an approach to treatment rather than a specific treatment. **Evidence-based practice** promotes the collection, interpretation, integration, and continuous evaluation of valid, important, and applicable individual- or family-reported, clinically-observed, and **research-supported evidence**. The best available **evidence**, matched to consumer circumstances and preferences, is applied to ensure the quality of clinical judgments and facilitates the most cost-effective care. “

California LEGISLATIVE INFORMATION

BILL TEXT

PDF Version: 10/02/19 - Chaptere Go

AB-1172 Special education: nonpublic, nonsectarian schools or agencies. (2019-2020)

SHARE THIS:

evidence 1/7

NEW!

Date Published: 10/02/2019 09:00 PM

Assembly Bill No. 1172

CHAPTER 454

NPS and NPA now required to have training in use of EBPs

An act to amend Sections 51225.2, 56365, 56366.1, 56366.4, and 56366.10 of the Education Code, relating to special education.

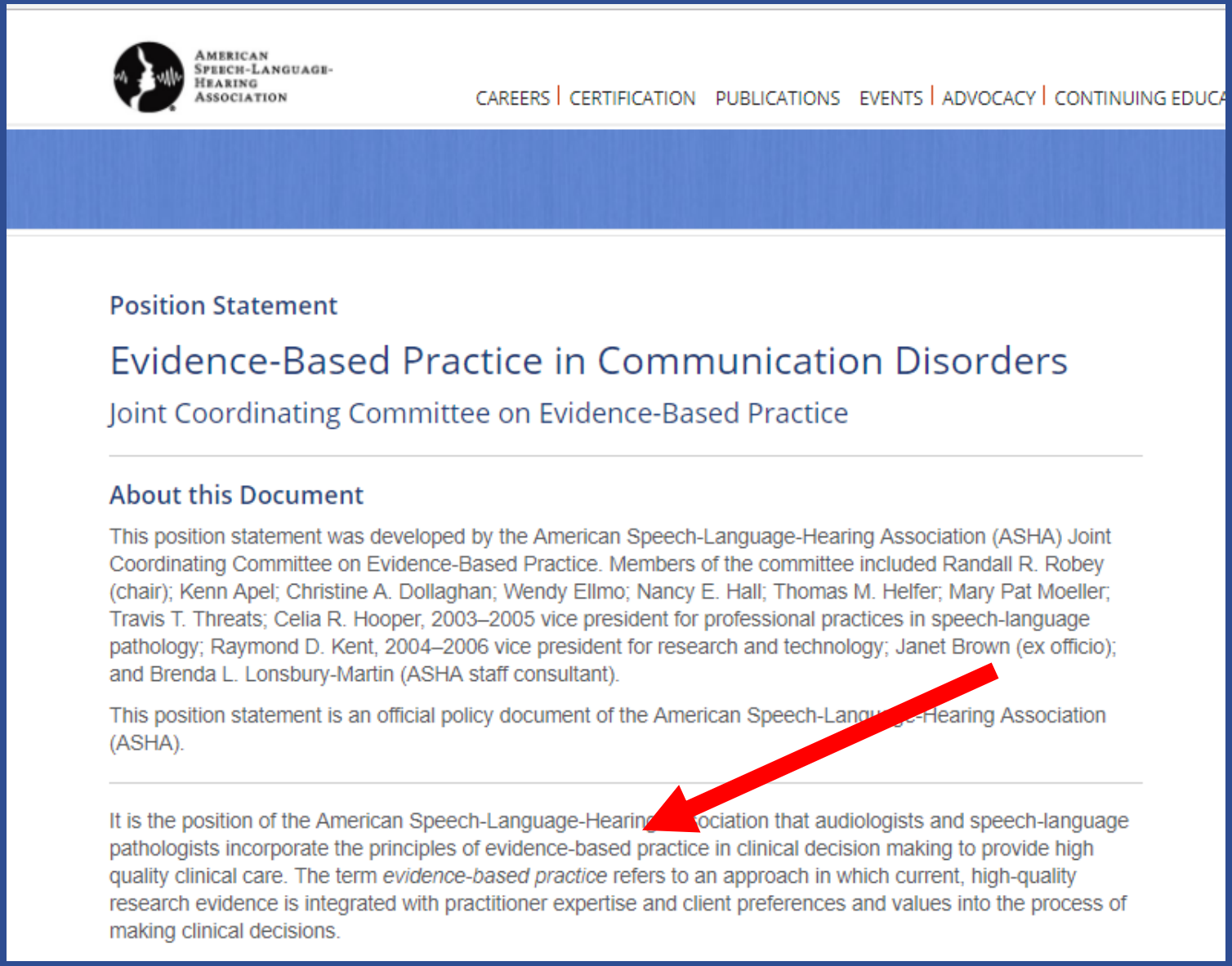
(4) (A) (i) Commencing with the 2020–21 school year, documentation that the nonpublic, nonsectarian school or agency will train staff who will have contact or interaction with pupils during the schoolday in the use of evidence-based practices and interventions specific to the unique behavioral needs of the nonpublic, nonsectarian school or agency's pupil population. The training shall be provided within 30 days of employment to new staff who have any contact or interaction with pupils during the schoolday, and annually to all staff who have any contact or interaction with pupils during the schoolday.

(ii) For a nonpublic, nonsectarian school or agency that was in existence as of the January 1 immediately preceding a school year, documentation that the nonpublic, nonsectarian school or agency's staff members who will have contact or interaction with pupils during the schoolday have received training that complies with the requirements of subparagraphs (B) and (C).

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB1172

Even ASHA!

(American Speech Language Hearing Association)



American Speech-Language-Hearing Association

CAREERS | CERTIFICATION PUBLICATIONS EVENTS | ADVOCACY | CONTINUING EDUCA

Position Statement

Evidence-Based Practice in Communication Disorders

Joint Coordinating Committee on Evidence-Based Practice

About this Document

This position statement was developed by the American Speech-Language-Hearing Association (ASHA) Joint Coordinating Committee on Evidence-Based Practice. Members of the committee included Randall R. Robey (chair); Kenn Apel; Christine A. Dollaghan; Wendy Ellmo; Nancy E. Hall; Thomas M. Helfer; Mary Pat Moeller; Travis T. Threats; Celia R. Hooper, 2003–2005 vice president for professional practices in speech-language pathology; Raymond D. Kent, 2004–2006 vice president for research and technology; Janet Brown (ex officio); and Brenda L. Lonsbury-Martin (ASHA staff consultant).

This position statement is an official policy document of the American Speech-Lang[illegible]-Hearing Association (ASHA).

It is the position of the American Speech-Language-Hearing [illegible]ociation that audiologists and speech-language pathologists incorporate the principles of evidence-based practice in clinical decision making to provide high quality clinical care. The term *evidence-based practice* refers to an approach in which current, high-quality research evidence is integrated with practitioner expertise and client preferences and values into the process of making clinical decisions.

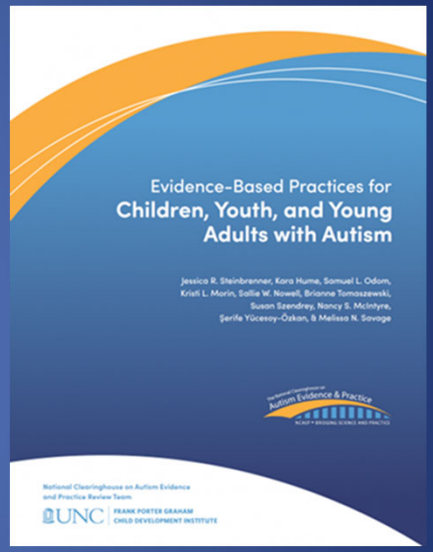
What is the most important reason to use EBPs?

Because they work!!!! ☺

How do we get EBPs implemented by everyone?

"Some practitioners will be able to take the translated information about EBPs and directly apply it in their classrooms, **but *Implementation Science informs us that additional steps are needed for most practitioners.***

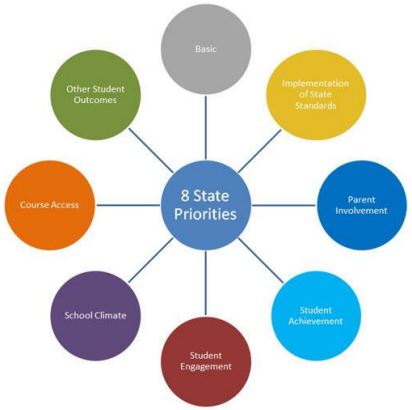
Professional development, such as coaching, and organizational support *are all factors that may be necessary for closing the last link of the research to practice gap."*

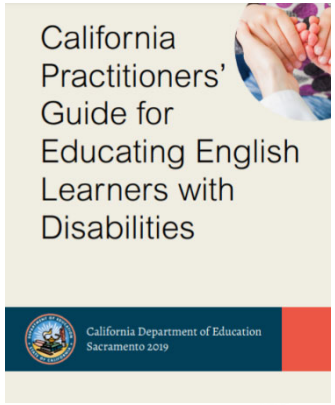


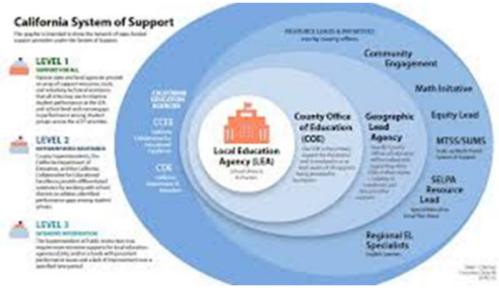
Page 50

California education has a lot going on and….
CAPTAIN aligns with these initiatives!

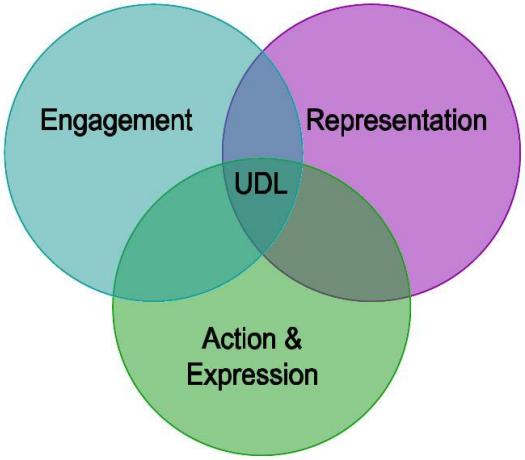
PBIS
POSITIVE BEHAVIOR
INTERVENTION AND SUPPORT







Every Student Succeeds Act (ESSA)



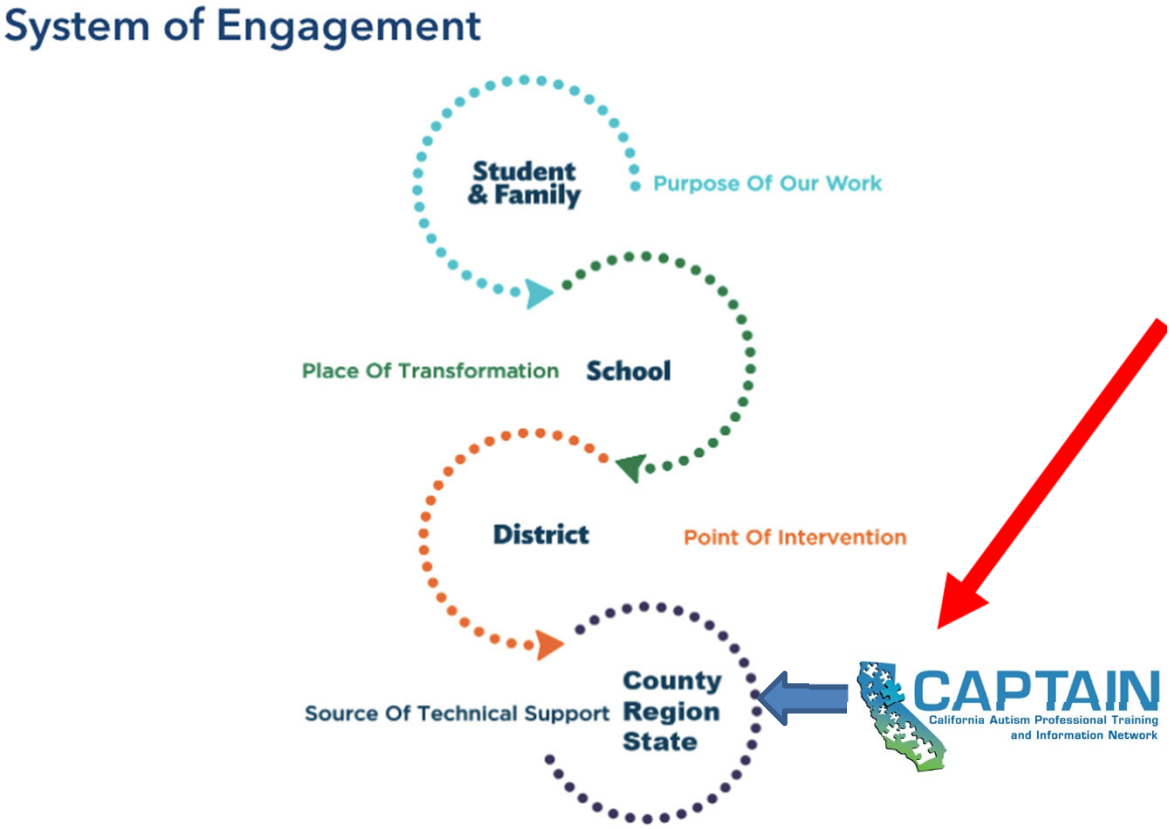
UDL Principles

INTEGRATING EBPs WITH INITIATIVES IS NOT ONE MORE THING! ☺

CAPTAIN Aligns with MTSS

California's Multi-Tiered System of Support is an integrated, comprehensive framework that aligns academic, behavioral, and social-emotional learning in a fully integrated system of support for the benefit of all students.

California MTSS
ALL MEANS ALL



EBPs Align with MTSS

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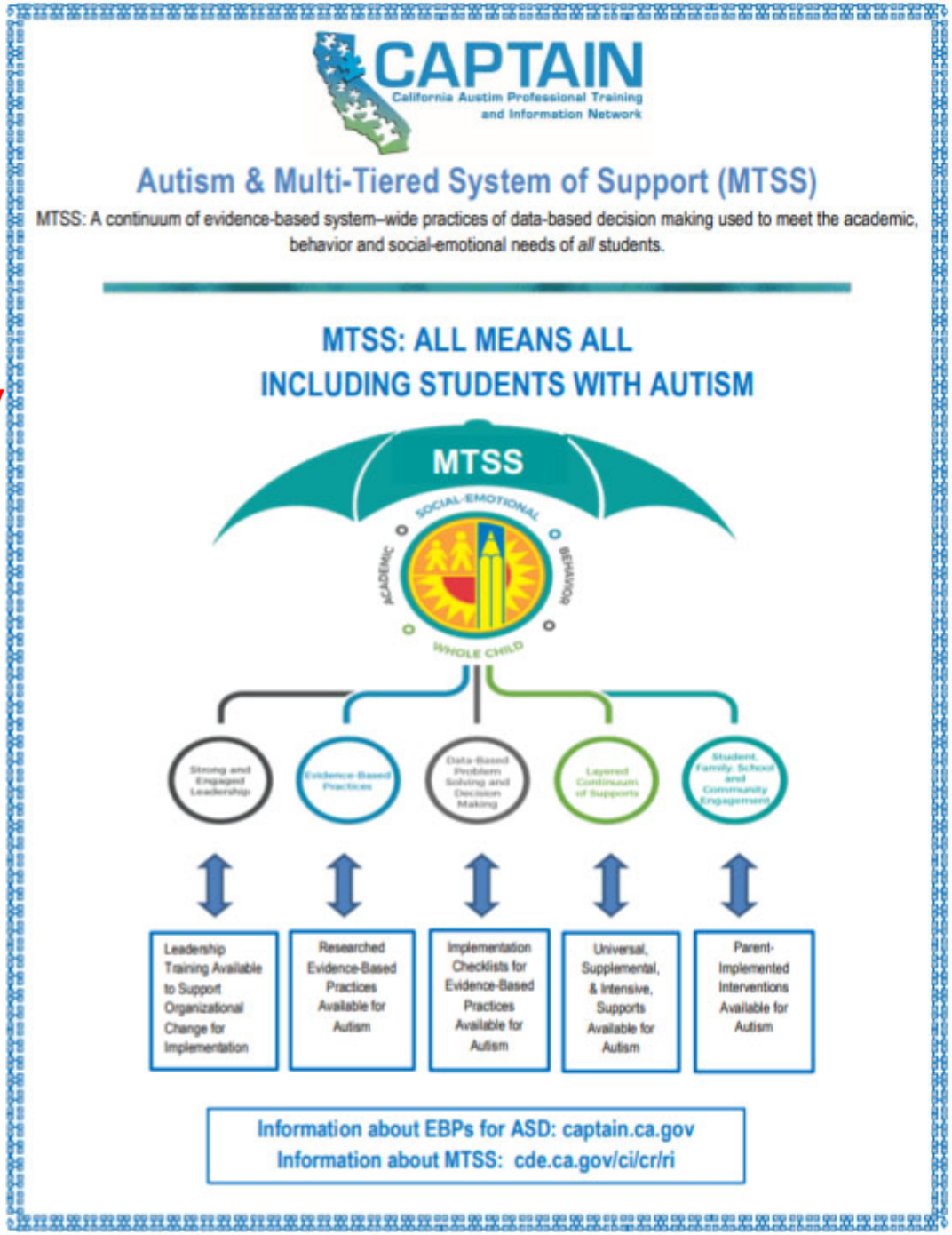

Implementing EBPs Aligns With CCSS Instruction and UDL

The principles of Universal Design for Learning (UDL) provide a framework for educators to use:

- **multiple ways to teach the content**
- **multiple ways for students to demonstrate knowledge**
- **multiple ways to engage ALL learners**

EBPs Align with UDL

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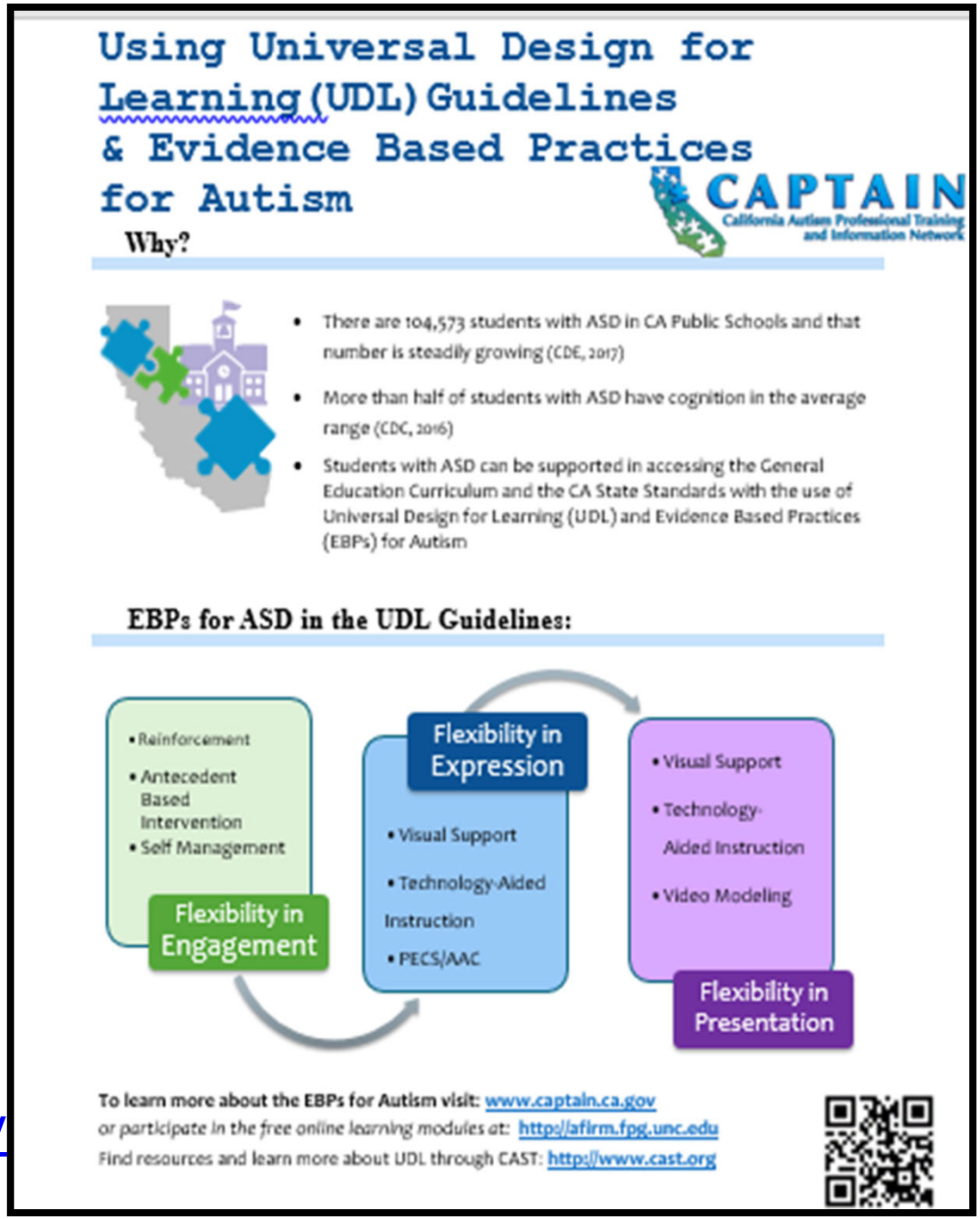

EBPs Align with PBIS

(Evidence Based Practices for Behavior)

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EBPs for Behavior*	EBPs for ASD*
Effectively design the physical environment of the classroom; maximize structure in classroom.	✓ Antecedent Based Interventions ✓ Visual Supports
Develop and teach predictable classroom routines Post, teach, review, monitor, and reinforce a small number of positively stated expectations.	✓ Visual Supports ✓ Task Analysis ✓ Reinforcement
Use active supervision and proximity. Prompt or remind students of expected behavior	✓ Antecedent Based Interventions ✓ Prompting
Establish a continuum of strategies to acknowledge appropriate behavior.	✓ Reinforcement
Make the problem behavior irrelevant with anticipation and reminders.	✓ Antecedent Based Interventions ✓ Self-Management ✓ Exercise ✓ Cognitive Behavior Intervention
Establish a continuum of strategies to respond to inappropriate behavior.	✓ Differential Reinforcement of Alternative, Incompatible or Other Behavior ✓ Response Interruption/Redirection ✓ Extinction
Help student learn appropriate behaviors	✓ Social Skills Training ✓ Structured Play Group ✓ Functional Communication Training ✓ Discrete Trial Training ✓ Modeling ✓ PECS ✓ Pivotal Response Training ✓ Scripting ✓ Social Narratives ✓ Video Modeling ✓ Parent-Implemented Intervention
Determine the function of the behavior to select a FERB (Functional Equivalent Replacement Behavior)	✓ Functional Behavior Assessment ✓ Functional Communication Training
Expectations and behavioral skills are taught and recognized in the natural context	✓ Naturalistic Instruction ✓ Pivotal Response Training
Provide a range of evidence based practices that promote active engagement in the classroom	✓ Technology-Aided Instruction and Intervention ✓ Peer-Mediated Instruction and Intervention ✓ Antecedent Based Interventions (e.g., Special Interests)
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EBPs Align with CEC HLPs

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HIGH LEVERAGE PRACTICES (HLP)	EVIDENCE BASED PRACTICES (EBP)-ASD THAT SUPPORT HLP
HLP 3: Collaborate with families to support student learning and secure needed services.	Parent-Implemented Intervention.
HLP 7: Establish a consistent, organized, and respectful learning environment.	Visual Support and Structure, Antecedent Based Intervention, Reinforcement.
HLP 8: Provide positive and constructive feedback to guide students' learning and behavior.	Reinforcement, Differential Reinforcement.
HLP 9: Teach social behaviors.	Social Skills Groups, Social Narratives, Structured Play Groups, Self-Management Training, Scripting.
HLP 10: Conduct functional behavioral assessments to develop individual student behavior support plans.	Functional Behavior Assessment, Functional Communication Training, Antecedent Based Intervention, Reinforcement, Differential Reinforcement.
HLP 11: Identify and prioritize long- and short-term learning goals.	Task Analysis, Goal Attainment Scaling.
HLP 12: Systematically design instruction toward specific learning goal.	Task Analysis, Goal Attainment Scaling.
HLP 13: Adapt curriculum tasks and materials for specific learning goals.	Antecedent Based Intervention, Technology-Aided Instruction and Intervention, Visual Support.
HLP 14: Teach cognitive and metacognitive strategies to support learning and independence.	Self-Management, Visual Support, Cognitive Behavioral Intervention.
HLP 15: Provide scaffolded supports.	Prompting/Prompt Fading, Time Delay, Visual Support, Antecedent Based Intervention.
HLP 16: Use explicit instruction.	Discrete Trial Teaching, Modeling, Video Modeling.
HLP 17: Use flexible grouping.	Peer-Mediated Instruction and Intervention, Antecedent Based Intervention.
HLP 18: Use strategies to promote active student engagement.	Pivotal Response Training, Antecedent Based Intervention, Peer-Mediated Instruction and Intervention, Self-Management, Technology-Aided Instruction and Intervention, Reinforcement.
HLP 19: Use assistive and instructional technologies.	Technology-Aided Instruction and Intervention, Functional Communication Training, Picture Exchange Communication System.
HLP 20: Provide intensive instruction.	Discrete Trial Teaching.
HLP 21: Teach students to maintain and generalize new learning across time and settings.	Naturalistic Intervention, Pivotal Response Training, Differential Reinforcement.
HLP 22: Provide positive and constructive feedback to guide students' learning and behavior.	Reinforcement, Differential Reinforcement.
High Leverage Practices: https://highleveragepractices.org	EBPs for Autism: https://afirm.fpg.unc.edu/afirm-modules

EBPs Align with Best Practices for Inclusive Education

www.captain.ca.gov

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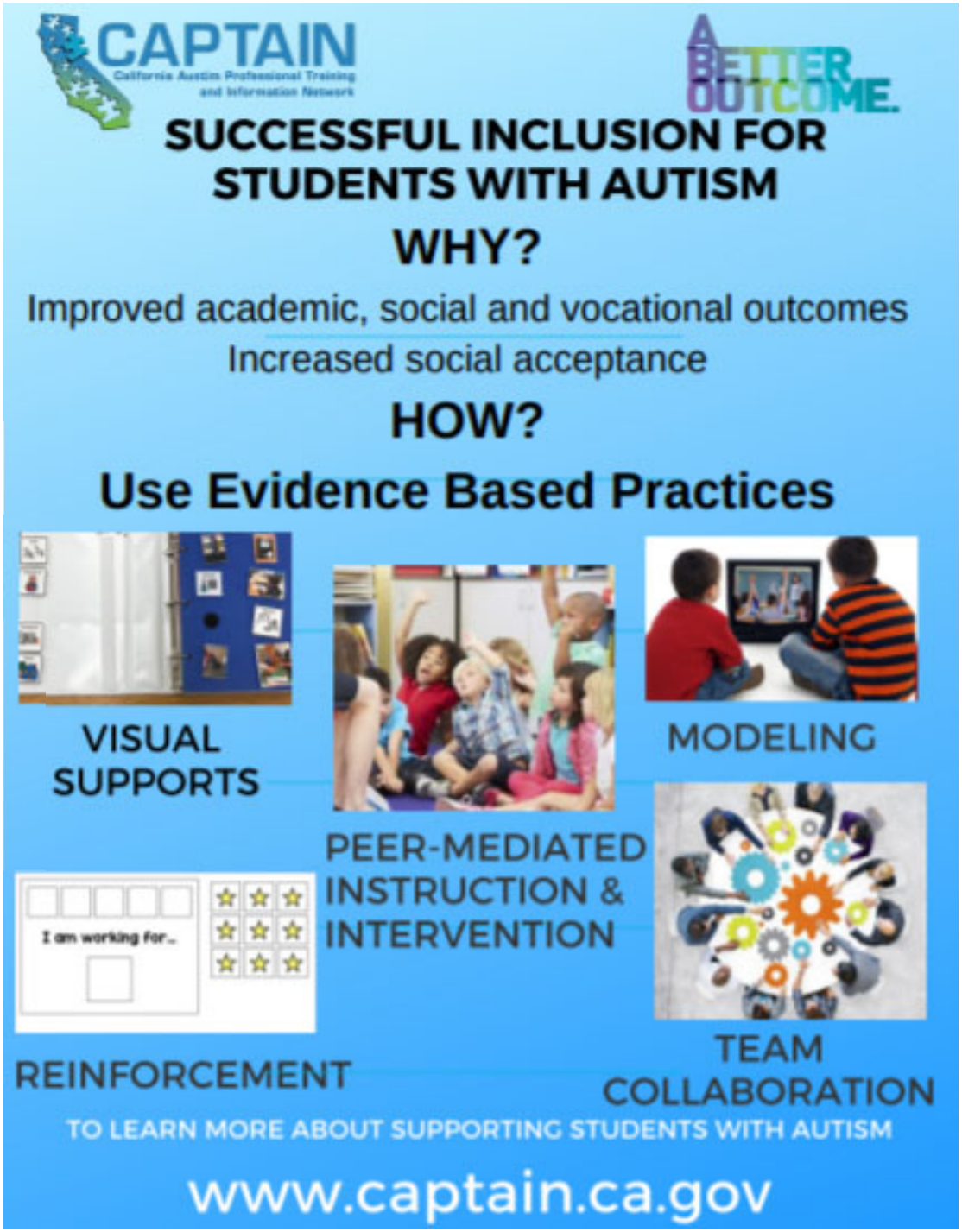

EBPs Align with Best Practices for English Learners with Disabilities

www.captain.ca.gov

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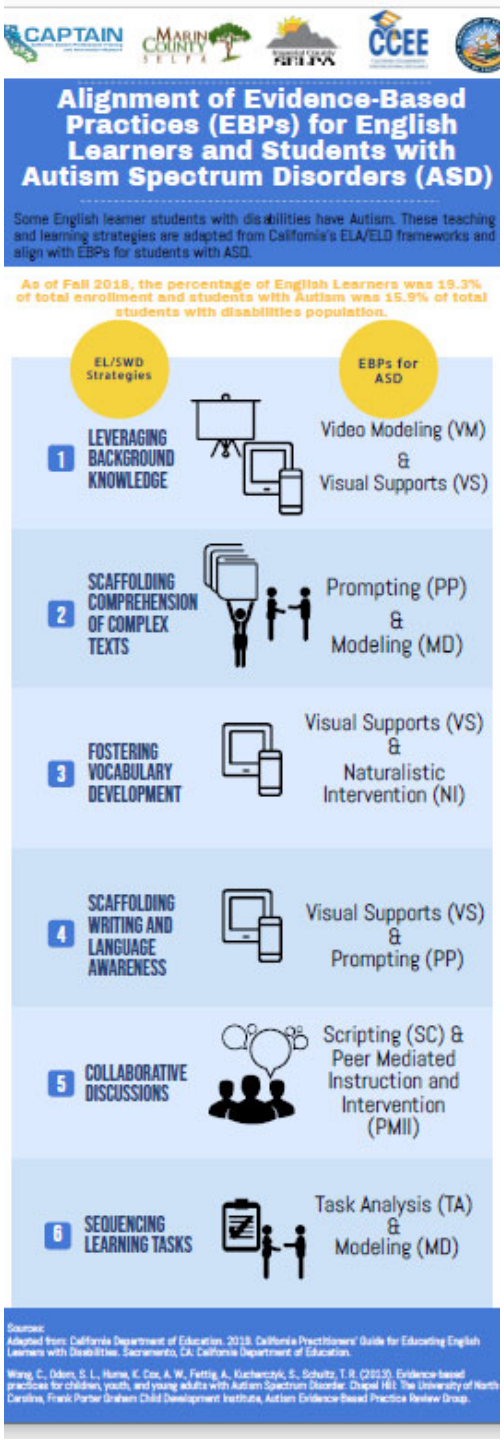

CAPTAIN Recommends

- Use 28 EBPs from NCAEP
- Use 14 Established Interventions for Ages 0-22 from NAC
- Use 1 Established Intervention for Ages 22+ from NAC

CAPTAIN Website

www.captain.ca.gov

You can easily access all these EBPs, NPDC. NCAEP tools and EBP Resources through the CAPTAIN website!

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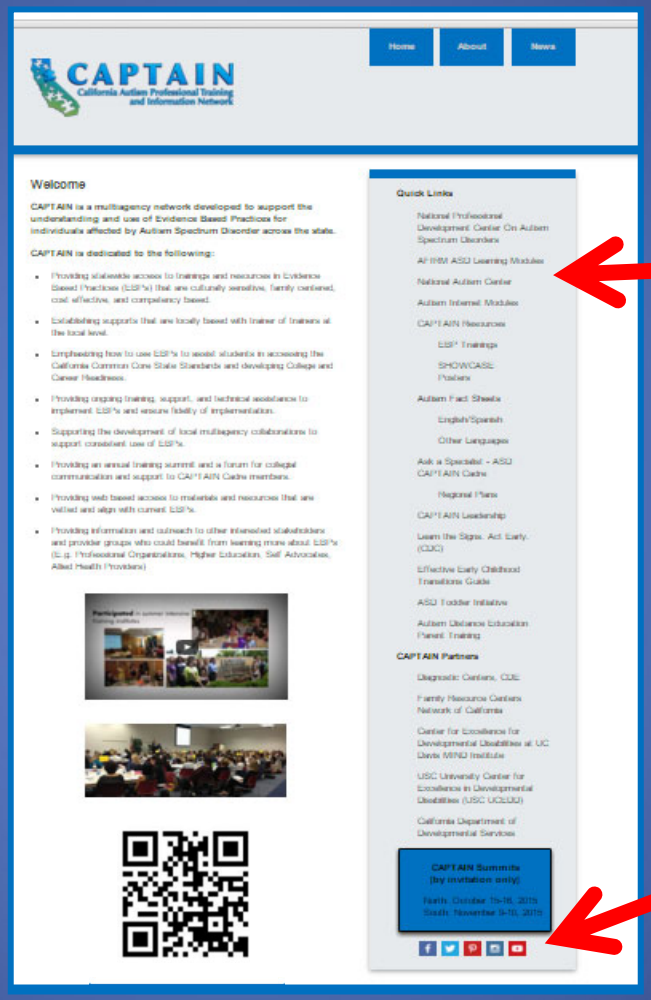

Links to ASD Resources

CAPTAIN Social Media Links

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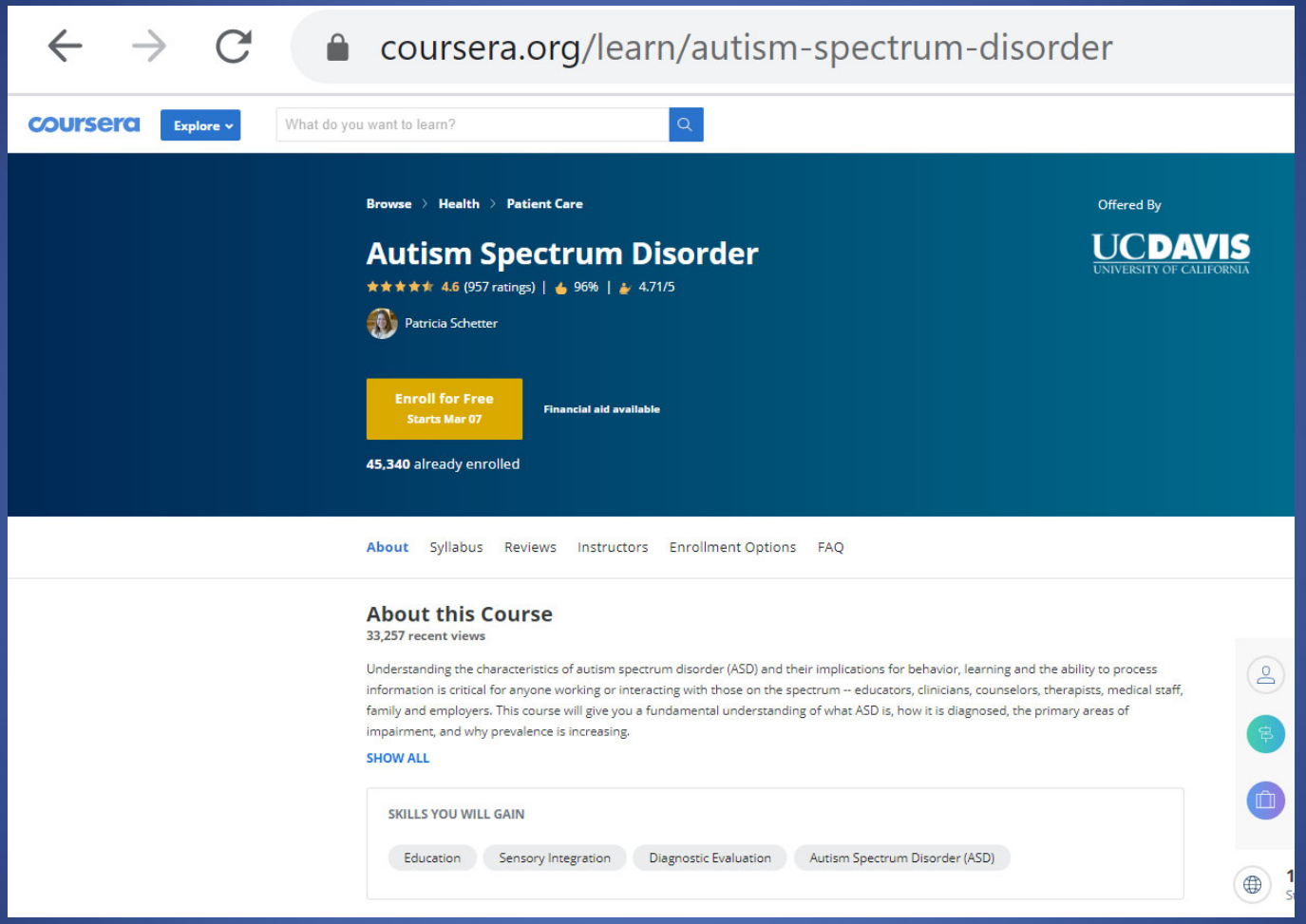
Free ASD Online Course!



https://www.coursera.org/learn/autism-spectrum-disorder

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"Children and families cannot benefit from evidence-based practices that they do not experience."

-Dean Fixsen, NIRN, 2006

nirn National Implementation Research Network

http://nirn.fpg.unc.edu/

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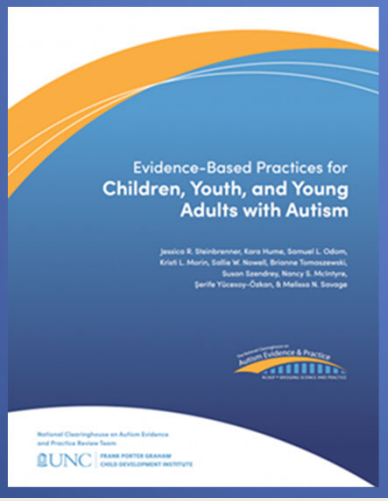
END
What are Evidence-Based Practices (EBPs) for ASD?



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