

Translating Science into Practices: Autism Focused Intervention Resources and Modules

Samuel L. Odom, Ann Sam, and Ann Cox
Frank Porter Graham Child Development Institute
University of North Carolina at Chapel Hill

The Research-Practice Gap

- Evidence-based medicine movement dates back to the 1960s (Cochrane's work)
 - Followed by Sackett's work in Canada
- Clinical psychology identification of “empirically supported treatments”
- No Child Left Behind: “Scientifically based practices”
- Every Student Succeeds Act (ESSA): “Evidence-based Practices”





The Cochrane Collaboration

Autism and Evidence-Based Focused Intervention Practices: Early Sources of Information

- Books
- Book chapters
- Narrative reviews

Systematic and Critical Reviews of Intervention Literature: NPDC & NAC



National Autism Center (2009)



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

National Standards Project

- ▶ [About NSP](#)
- ▶ [Phase 1 \(2009\)](#)
- ▶ [Phase 2 \(2015\)](#)

[Home](#) » [National Standards Project](#)

National Standards Project

Families, educators, and service providers are constantly bombarded by a massive amount of confusing and often conflicting information about the myriad treatments available. The National Standards Project is helping to reduce the resulting turmoil and uncertainty by addressing the need for evidence-based practice standards and providing guidelines for how to make choices about interventions.

“The National Standards Report may be the most important document that parents and practitioners ever read and the most important weapon in their arsenal to fight autism.”

Marjorie H. Charlop, Ph.D. / Professor of Psychology, Claremont McKenna College / Director, The Claremont Autism Center

Overview

The National Standards Project – Phase 1 and Phase 2 – answers one of the most pressing public health questions of our time — how do we effectively treat individuals with autism spectrum disorder (ASD)? The project's primary goal is to provide critical information about which interventions have been shown to be effective for individuals with 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 have never been systematically evaluated before now.

The National Standards Report serves as a single, authoritative source of guidance for parents, caregivers, educators, and service providers as they make informed intervention decisions. We are confident that these findings and recommendations will change lives and give hope and direction to people whose lives are touched by autism.



Since 2007, the National Professional Development Center on Autism Spectrum Disorder (NPDC) has worked to develop free professional resources for teachers, therapists, and technical assistance providers who work with individuals with ASD. Resources include detailed information on how to plan, implement, and monitor specific evidence-based practices.

NPDC NEWS & UPDATES

[New AFIRM Module Available](#)

Access your account now or create a free account to see the Self-management module

[READ MORE](#)

[More](#)

AFIRM



Autism Focused Intervention
Resources and Modules

[Sign Up for an AFIRM Account](#)



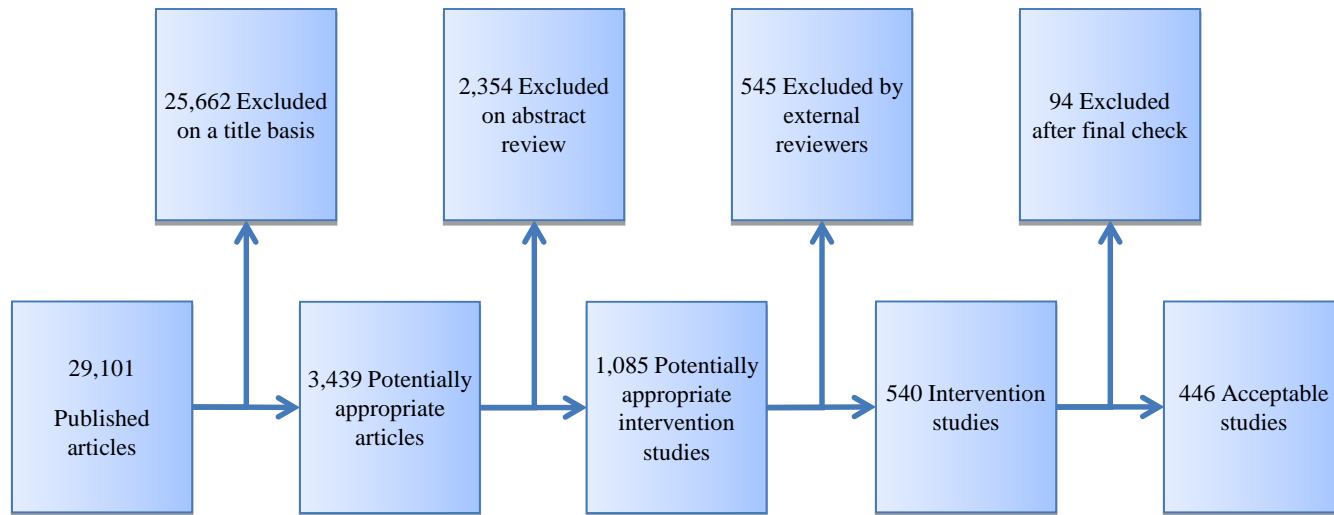
[Follow AFIRM on Facebook](#)

BRIEF NPDC OVERVIEW VIDEO



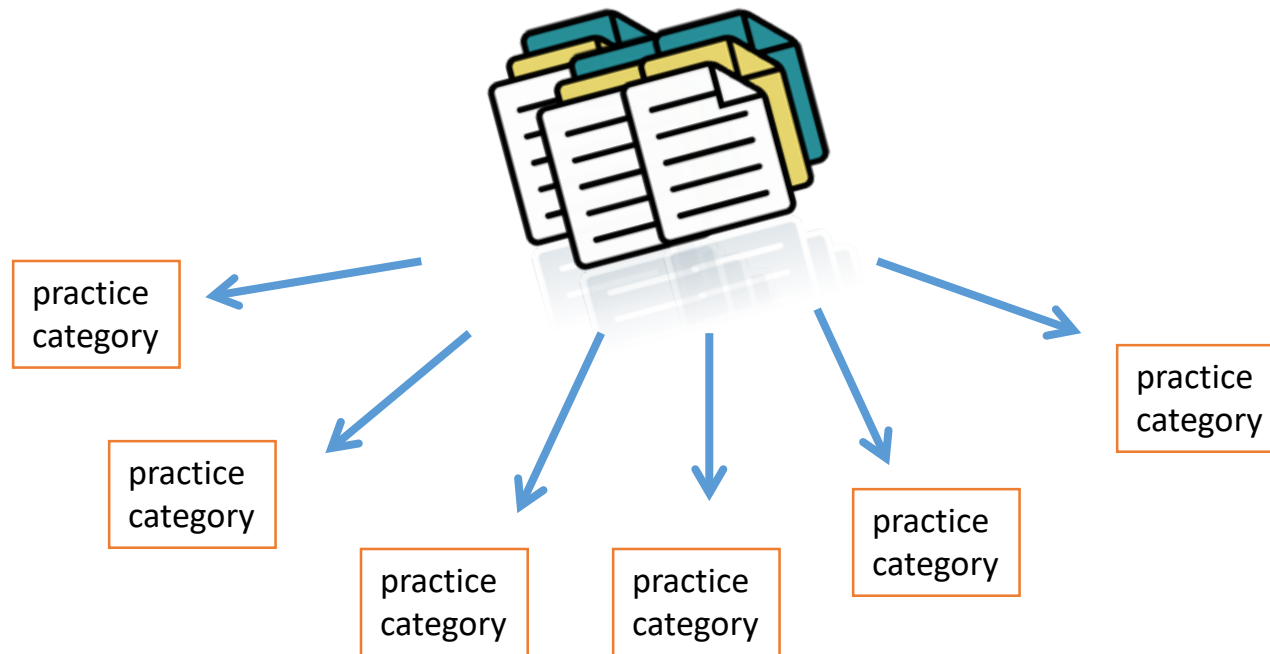
A coach talks about the NPDC model and the impact of using evidence-based practices.

Literature Results



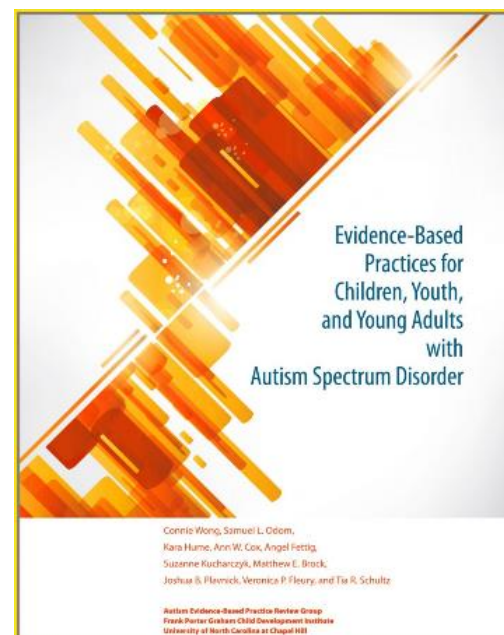
25,662 excluded on a title basis
2,354 excluded on abstract review
545 excluded by external reviewers
94 excluded after final check
29,101 published articles
3,439 potentially appropriate articles
1,085 potentially appropriate intervention studies
540 intervention studies
446 acceptable studies

Content Analysis



National Professional Development Center on ASD

- ❖ Wong et al. 2014 recently updated Odom et al. (2010) EBP review
 - ❖ <http://autismpdc.fpg.unc.edu/how-do-i-find-out-more-about-ebps>
- ❖ Began with pool of 29,150+ articles and reduced to 456 articles
- ❖ 27 EBPs identified



EBP Criteria

- Criteria for Qualification as an Evidence-Based Practice

- At least two high quality experimental group or quasi-experimental design articles
 - Conducted by at least two different researchers or research groups

OR

- At least five high quality single case design articles
 - Conducted by at least three different researchers or research groups
 - Having a total of at least 20 participants across studies

OR

- A combination of at least one high quality group experimental or quasi-experimental design article and at least three high quality single case design articles
 - Conducted by at least two different research groups

Evidence-Based Focused Intervention Practices

Fundamental Applied Behavior Analysis Practices

- Reinforcement*
- Prompts*
- Time delay*
- Modeling*
- Task analysis*

Positive Behavior Intervention and Support

- Functional assessment*
- Antecedent-based* intervention
- Extinction*
- Response interruption/redirection*
- Differential reinforcement of alternative/other behavior*
- Functional communication training*

*ABA Techniques

Evidence-Based Focused Intervention Practices

Social Communication Interventions

- Social skills training
- Peer-mediated interventions and instruction*
- Social narratives
- Structured play groups
- Picture Exchange Communication System (PECS®)*

Broad Teaching Strategies

- Visual supports
- Discrete trial training*
- Naturalistic interventions*
- Pivotal response training*
- Parent implemented interventions
- Scripting*
- Exercise

*ABA Techniques

Evidence-Based Focused Intervention Practices

Cognitive Behavior

- Self management*
- Cognitive behavior interventions*

Technology Oriented

- Technology-assisted instruction and intervention
- Video modeling*

*ABA Techniques

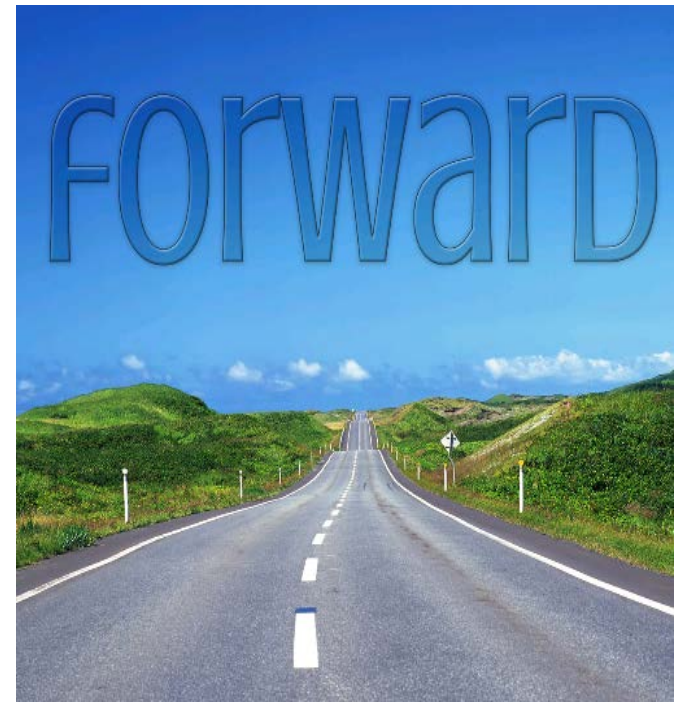
Matrix of Evidence-based Practices by Outcome and Age

EBP - Evidence-based Practice	Social			Communication			Joint Attention			Behavior			School-Readiness			Play			Cognitive			Motor			Adaptive			Vocational			Mental			Academic		
	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22			
Antecedent-based Interventions (ABI)																																				
Cognitive Behavioral Intervention (CBI)																																				
Differential Reinforcement of Alternative, Incompatible, or Other Behavior (DRA/I/O)																																				
Discrete Trial Training (DTT)																																				
Exercise (ECE)																																				
Extinction (EXT)																																				
Functional Behavior Assessment (FBA)																																				
Functional Communication Training (FCT)																																				
Modeling (MD)																																				
Naturalistic Intervention (NI)																																				
Parent-implemented Interventions (PII)																																				
Peer-mediated Instruction and Intervention (PMII)																																				
Picture Exchange Communication System (PECS)																																				
Pivotal Response Training (PRT)																																				
Prompting (PP)																																				
Reinforcement (R+)																																				
Response Interruption/Redirection (RIR)																																				
Scripting (SC)																																				
Self-management (SM)																																				
Social Narratives (SN)																																				
Social Skills Training (SST)																																				
Structured Play Group (SPG)																																				
Task Analysis (TA)																																				
Technology-aided Instruction and Intervention (TAII)																																				
Time Delay (TD)																																				
Video Modeling (VM)																																				
Visual Support (VS)																																				

Evidence-Based Practices Identified by the National Professional Development Center (NPDC) on ASD	Established Treatments Identified by the National Standards Project (NSP)													
	Behavioral Interventions	Cognitive Behavioral Interventions	Language Training	Modeling	Natural Teaching Strategies	Parent Training	Peer Training Package	Pivotal Response Training	Schedules	Scripting	Self-management	Social Skills Package	Story-based Intervention	Comprehensive Behavioral Treatment for Young Children
Antecedent-Based Intervention	X													The NPDC on ASD did not review comprehensive treatment models. Components of The Comprehensive Behavioral Treatment of young Children overlap with many NPDC identified practices.
Differential reinforcement	X													
Discrete trial training	X													
Extinction	X													
Modeling	X			X										
Prompting	X													
Reinforcement	X													
Response Interruption/Redirection	X													
Scripting	X									X				
Task Analysis	X													
Video Modeling	X			X										
Time Delay	X													
Cognitive Behavioral Intervention		X												
Naturalistic Intervention					X									
Parent Implemented Intervention						X								
Peer-mediated Intervention							X							
Pivotal Response Training								X						
Self-management										X				
Social Narratives												X		
Social Skills Training												X		
Visual Supports									X					
Exercise	Exercise was identified as an emerging practice by the NSP.													
Functional Behavior Assessment	The NSP did not consider Functional Behavior Assessment as a category of evidence-based practice.													
Functional Communication Training	Functional communication training was identified as an emerging practice by the NSP.													
Picture Exchange Communication	Picture Exchange Communication System was identified as an emerging practice by the NSP.													
Structured Play Groups	The NSP Did not consider Structured Play Groups as a category of evidence-based practice.													
Technology-aided intervention	Technology-aided intervention was identified as an emerging practice by the NSP.													

Next Step in This Work: National Clearinghouse for Autism Practice Evidence (NCAPE)

- Launching this new center in January, 2017
- Incorporate last five-six years of focused intervention practices research (2011-2017)
- Develop process for continuous update
Conduct a review of comprehensive treatment models
- Conduct a review of psychopharm and behavioral/psycho-pharma interventions
- Operating on initial seed funding for first year





Autism Focused Intervention
Resources and Modules

Login | Sign Up

AFIRM Modules

Learn with AFIRM

Selecting EBPs

Username or e-mail

Password

[Request new password](#)

Log in

Access free AFIRM online modules and resources for each of the 27 evidence-based practices

identified by the National Professional Development Center
on Autism Spectrum Disorder (ASD)

Sign Up

It's free and only takes a few minutes

**Earn a free professional
development certificate**
for completing each EBP module

View modules

Learn with AFIRM
through engaging case examples,
videos, and interactive
assessments

Find out more

**Download resources and
materials**
that support your use of EBPs
with children and youth with ASD

View Resources

[Contact Us](#)

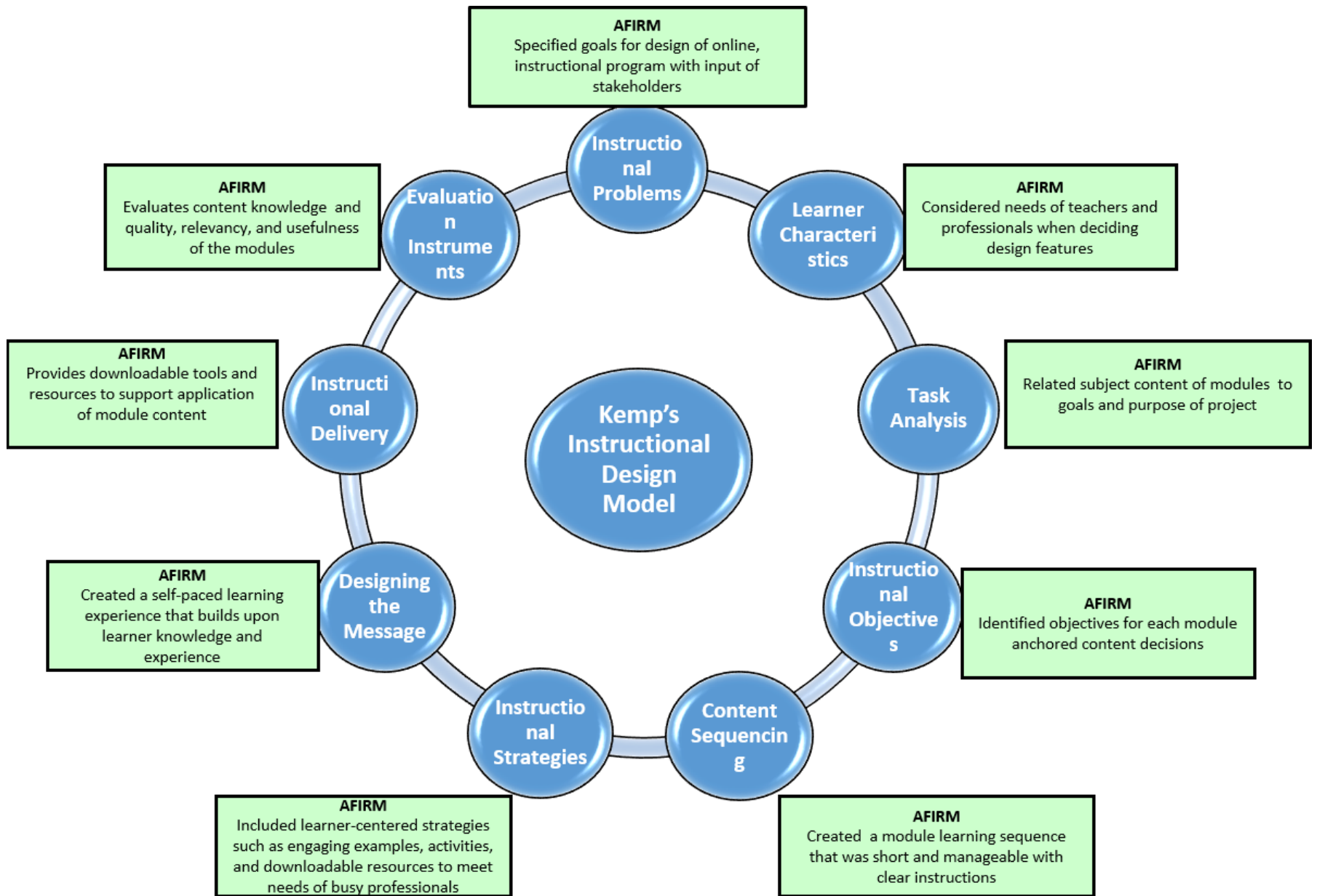


[Follow us on Facebook](#)

Autism Focused Intervention Resources & Modules (AFIRM) is an extension of the National Professional Development Center (NPDC) on ASD. Visit the [NPDC website](#) for more information.



UNC
FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE



AFIRM

❖ E-learning modules for 27 EBPs

❖ <http://afirm.fpg.unc.edu/>

❖ Target audience

- ❖ Special educators
- ❖ General education teachers
- ❖ Related service personnel
- ❖ Early interventionism

❖ Planning, using, monitoring EBPs



Autism Focused Intervention
Resources & Modules

Username or e-mail

Password

[Request new password](#)

Log in

Access free AFIRM online modules and resources for each of the 27 evidence-based practices

identified by the National Professional Development Center on Autism Spectrum Disorder (ASD)

Sign Up It's free and only takes a few minutes

Earn a free professional development certificate
for completing each EBP module

View modules

Learn with AFIRM
through engaging case examples, videos, and interactive assessments

Find out more

Download resources and materials
that support your use of EBPs with children and youth with ASD

View Resources

AFIRM Structure

❖ 4 lessons

- ❖ Basics of EBP
- ❖ Plan for EBP
- ❖ Use EBP
- ❖ Monitor EBP

❖ Key components of EBPs

❖ Step-by-step process for applying practice

The screenshot displays the AFIRM (Autism Focused Intervention Resources and Modules) website. At the top, the AFIRM logo is accompanied by the text "Autism Focused Intervention Resources and Modules". To the right, there is a "My Account | Logout" link with a note: "You are logged in. Need help? Visit the FAQs section". Below the header, a navigation bar includes links for "AFIRM Modules", "Learn with AFIRM", "Selecting EBPs", and "Resources". A "AA" accessibility icon is also present.

The main content area is titled "Module: PMII". A sidebar on the left lists the module's components: "A Case for PMII", "Lesson 1: Basics of PMII" (highlighted), "Lesson 2: Plan for PMII", "Lesson 3: Use PMII", "Lesson 4: Monitor PMII", "PMII Resources and Tools", and "Assessments and Evaluations".

The main content area for "Lesson 1: Basics of PMII" includes a "Lesson 1: Basics of PMII" header, a "Lesson 1: Basics of PMII" sub-header, and a "Lesson 1: Basics of PMII" sub-header. Below this, it states "After this lesson, you will be able to:" followed by two bullet points: "Describe five types of PMII, with what ages they can be used, and the skills that can be addressed with each." and "Identify how PMII can help both learners with ASD and their peers in social interactions." It also notes "Time to complete: approximately 20 minutes."

The lesson content is organized into four sections: "Lesson 1: Basics", "Lesson 2: Planning for the Practice", "Lesson 3: Using the Practice", and "Lesson 4: Monitoring Progress". Each section contains a list of topics to be covered. Below these sections, there is a "Lesson 1: Basics" section with a list of topics: "Definition & description of the practice", "How this practice is used & by whom", and "Research basis for the practice".

At the bottom of the lesson content, there is a "Lesson 1: Basics" section with a list of topics: "Definition & description of the practice", "How this practice is used & by whom", and "Research basis for the practice".

AFIRM Content

- ❖ Engaging case examples
- ❖ Multimedia presentation of content
- ❖ Interactive assessments
- ❖ Free professional

Module: PMII

A Case for PMII

Lesson 1: Basics of PMII

Lesson 2: Plan for PMII

Lesson 3: Use PMII

Lesson 4: Monitor PMII


PMII Resources and Tools

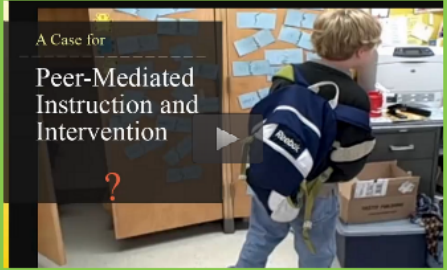
Assessments and Evaluations

< BACK

NEXT >

A Case for PMII

**Video Story:
A Case for PMII**



A Case for
Peer-Mediated
Instruction and
Intervention

Video Transcript

00:00:00,500 --> 00:00:07,500
(Musical Intro Playing)

00:00:08,000 --> 00:00:13,500
Narrator: "Could this be a case for Peer Mediated Instruction and Intervention?"

00:00:14,000 --> 00:00:22,500
Narrator: "Watch as elementary student with Autism Spectrum Disorder or ASD enters his general education classroom at the start of the day."

Key Points

- Focal Learner with ASD: blond hair boy with the blue backpack.
- Notice how the student with ASD interacts with peers and how his peers interact with him.
- Determine if you think PMII could be a possible intervention for this learner.

AFIRM Supplemental Materials

- ❖ Implementation checklist
- ❖ Step-by-step practice guide
- ❖ Parent's guide
- ❖ Tip sheet for professionals
- ❖ Data sheets
- ❖ Evidence-base

Visual Supports (VS)

---Implementation Checklist---

	Observation Date	1	2	3	4
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:					
<input type="checkbox"/> Introduce boundary to learner					
<input type="checkbox"/> Use modeling to teach learner to stay within boundary					
<input type="checkbox"/> Use reinforcement to encourage learner to stay within boundary					
<input type="checkbox"/> Use corrective feedback when learner does not stay within boundary					
- Cues:					
<input type="checkbox"/> Show learner visual cue					
<input type="checkbox"/> Stand behind learner when prompting use of visual cue					
<input type="checkbox"/> Use concise, relevant words/terms while teaching visual cue					
<input type="checkbox"/> Assist learner in participating in activity/event with visual cue					
- Schedules					
<input type="checkbox"/> Stand behind learner when prompting use of visual schedule					
<input type="checkbox"/> Place schedule information in learner's hand					
<input type="checkbox"/> Use concise, relevant words/terms					
<input type="checkbox"/> Assist learner in getting to designated activity/location, and prompt learner to place schedule materials in appropriate location					
<input type="checkbox"/> Ensure learner remains in scheduled location until prompted to use schedule to transition					
<input type="checkbox"/> Repeat steps until learner is able to complete the sequence independently across activities/locations					
2.2 Fade prompts as quickly as possible when criterion met					
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					

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.fpg.unc.edu

AFIRM Certificates



My Account

- Resume your learning from the My Modules tab by selecting the last page viewed.
- View or print module certificates you have earned from My Certificates.

[My Modules](#)

[Module Certificates](#)

You have started the following modules:

Peer-Mediated Instruction and Intervention

Module in Progress:
Non-certificate Track

Last page viewed:
Monitoring Activity

[Take the Post-assessment](#)

[Submit Module Evaluation](#)

You have selected not to receive a certificate for this module. While recommended, module assessments and the evaluation are optional.

Time Delay

Module in Progress:
Certificate Track

Last page viewed:
Lesson 3: Use TD

[Take the Post-assessment](#)

[Submit Module Evaluation](#)

To receive a certificate, you must:
1. Complete the Pre-assessment Quiz
2. Pass the Post-assessment Quiz
3. Submit the Evaluation Survey

AFIRM Modules

Visit the AFIRM Modules page to see a list of available and upcoming modules



[FAQs](#)
Frequently Asked Questions

Account Information

Username: rossaj

E-mail: andrea.ross@unc.edu

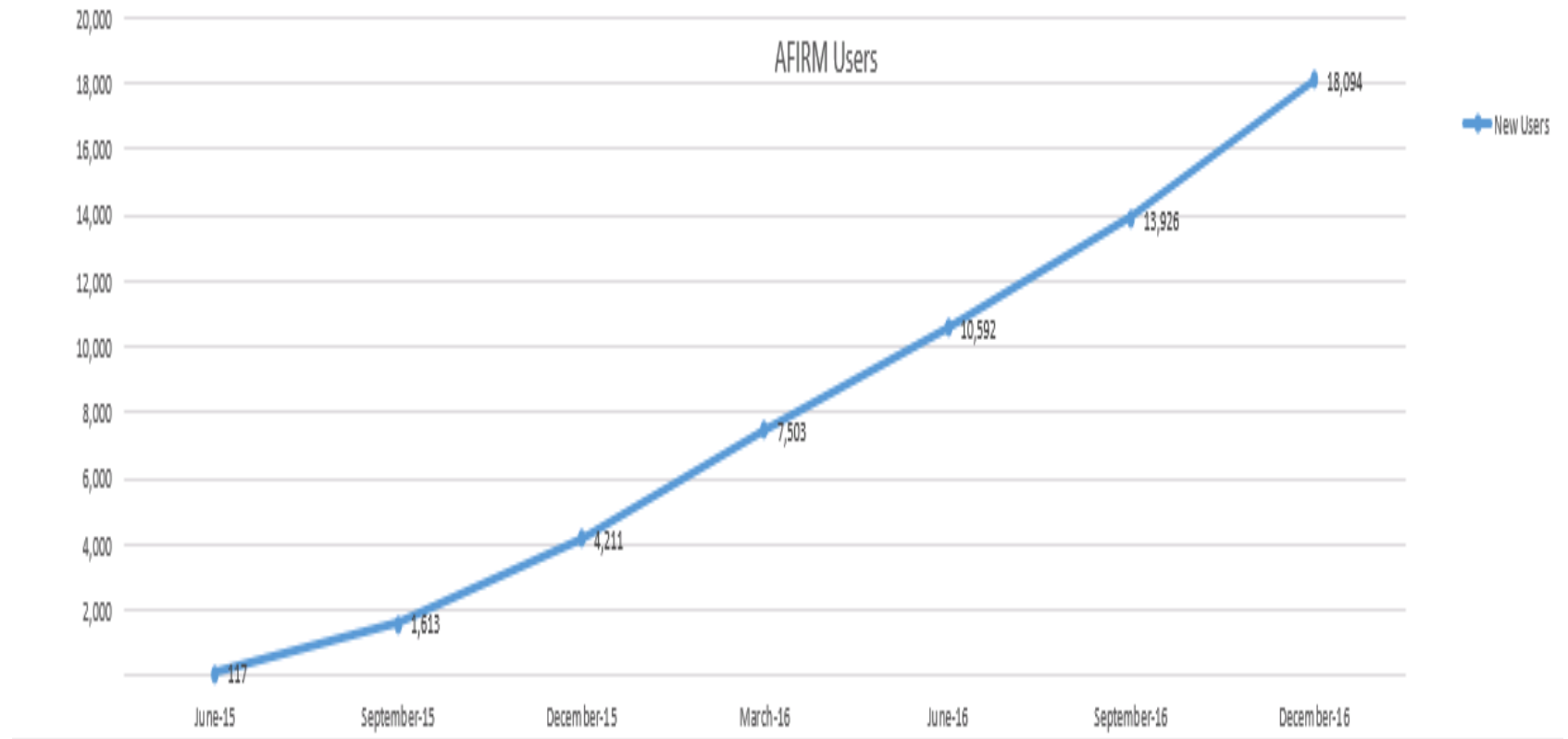
Send me e-mail updates when a new EBP is available: No

[Edit information or change password](#)

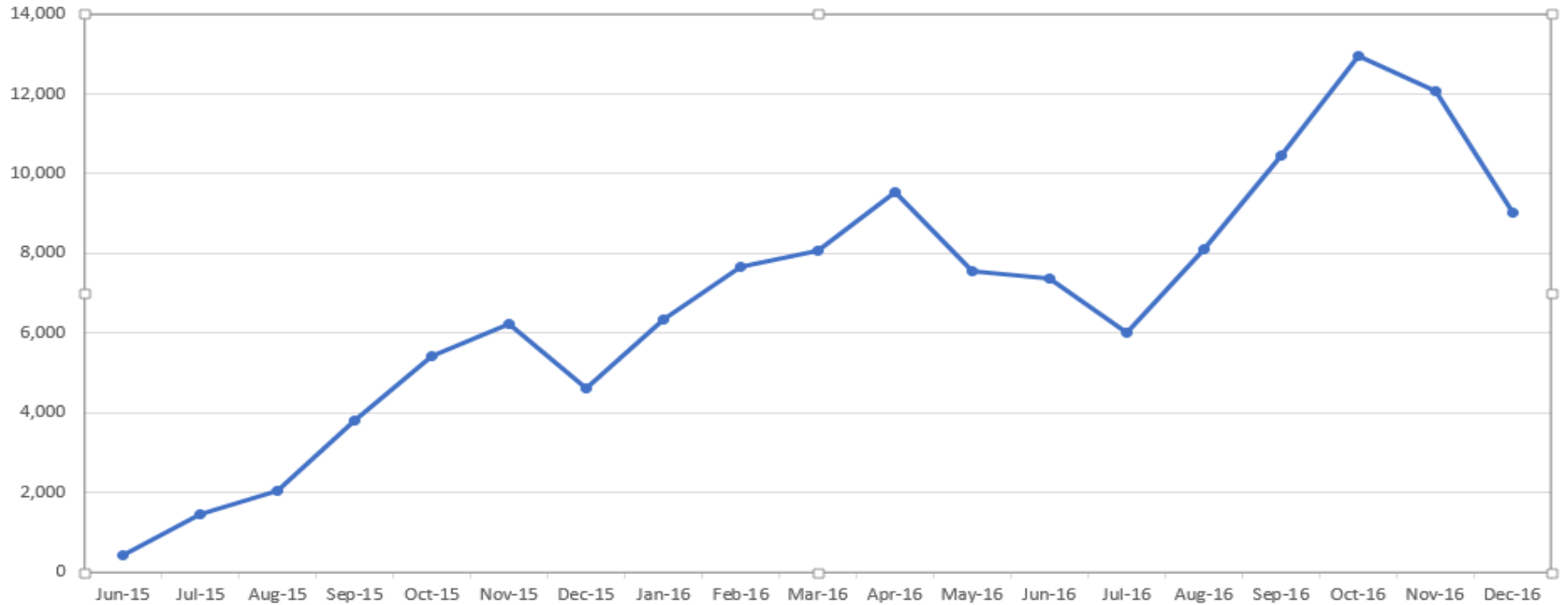
AFIRM

<http://afirm.fpg.unc.edu/>

Cumulative Growth of New Users



Sessions Viewed



Total Sessions: 129,251

Total Page Views: 1,523,853

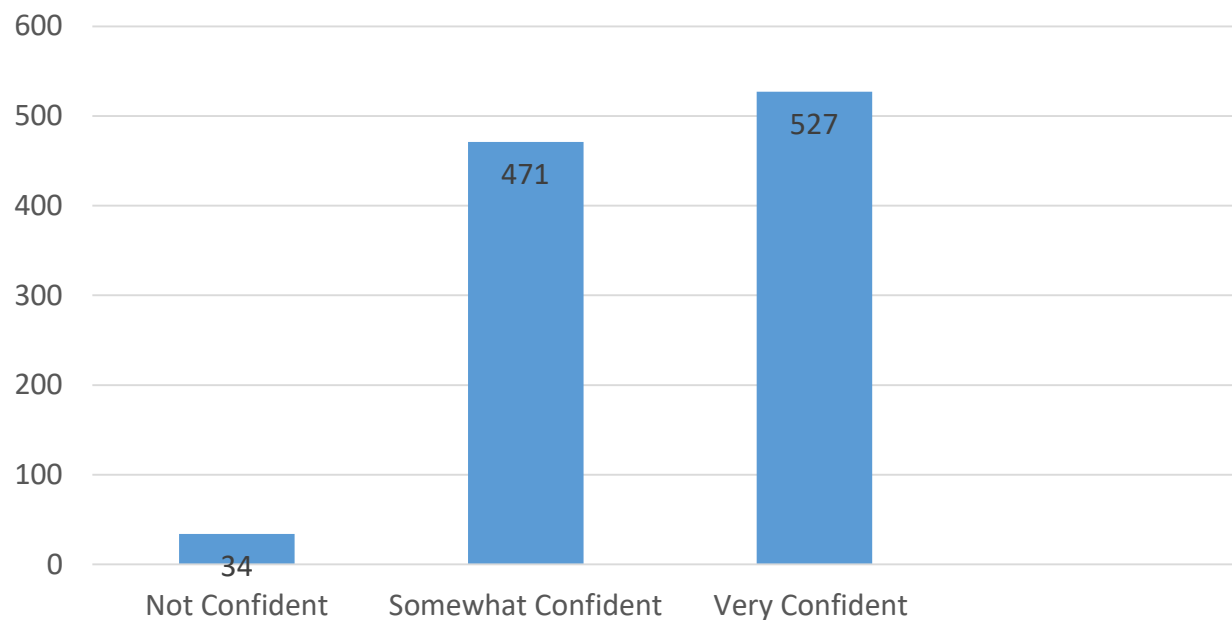
Total Downloads: 138,670

Who Are Our Users?

Occupation	n
Administrator	1,025
Early Interventionist	1,005
General Education Teacher	869
Special Education Teacher	4,985
Technical Assistant Provider	424
Paraeducator	1,974
Related Service Provider	1,749
Health Care Provider	609
Family Member	387
University Faculty	625
University Student	2,549
Other	2,149
	<i>18,350</i>

Confidence in Using EBPs

How confident do you feel in implementing the evidence-based practices you reviewed on the AFIRM modules?



Conclusions

- AFIRM Modules translate research into focused intervention practice resources that practitioners can use to implement EBPs in their programs for students with ASD
- It is one tool, but it alone may not be sufficient in some circumstances
 - Training and support on site may be an important feature
- Modules appear to be important for preservice training—universities are using them in preservice training.
- Research does not stand still—ongoing updating and translation is critical

AFIRM

<http://afirm.fpg.unc.edu/>