Translating Science into Practices: Autism Focused Intervention Resources and Modules

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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”
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

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

National Autism Center (2009)
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 treatments.

"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. Chaitop, 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.
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

practice category

practice category

practice category

practice category

practice category

practice category
Wong et al. 2014 recently updated Odom et al. (2010) EBP review


- 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

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*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

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Experiences:
- Scripting was identified as an emerging practice by the NSP.
- Functional Behavior Assessment was considered as a category of evidence-based practice.
- Functional Communication Training was identified as an emerging practice by the NSP.
- Pivotal Response Treatment 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 interventions were 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
AFIRM
Specified goals for design of online, instructional program with input of stakeholders

AFIRM
Evaluates content knowledge and quality, relevancy, and usefulness of the modules

AFIRM
Provides downloadable tools and resources to support application of module content

AFIRM
Created a self-paced learning experience that builds upon learner knowledge and experience

AFIRM
Included learner-centered strategies such as engaging examples, activities, and downloadable resources to meet needs of busy professionals

AFIRM
Created a module learning sequence that was short and manageable with clear instructions

AFIRM
Considered needs of teachers and professionals when deciding design features

AFIRM
Related subject content of modules to goals and purpose of project

AFIRM
Identified objectives for each module anchored content decisions

Kemp’s Instructional Design Model

1. Evaluating Instruments
2. Instructional Problems
3. Learner Characteristics
4. Task Analysis
5. Instructional Objectives
6. Content Sequencing
7. Instructional Strategies
8. Designing the Message
9. Instructiional Delivery
AFIRM

- E-learning modules for 27 EBPs
  - [http://afirm.fpg.unc.edu/](http://afirm.fpg.unc.edu/)
- Target audience
  - Special educators
  - General education teachers
  - Related service personnel
  - Early interventionism
- Planning, using, monitoring EBPs
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
AFIRM Content

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

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**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/terminology 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/terminology
     - Assist learner in getting to designated activity/location, and prompt learner to place schedule materials in appropriate location
     - Ensure learner remains in scheduled location until prompted to use schedule to transition
     - 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

If the answer to any of these is "no," refer to the "Selecting EBPs" section on the website: afirm.its.unc.edu
AFIRM

http://afirm.fpg.unc.edu/
Total Sessions: 129,251
Total Page Views: 1,523,853
Total Downloads: 138,670
### Who Are Our Users?

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<th>Occupation</th>
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<tr>
<td>Administrator</td>
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<tr>
<td>Early Interventionist</td>
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<td>Health Care Provider</td>
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<td>Other</td>
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<td><strong>Total</strong></td>
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</table>
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

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