COMPREHENSIVE EVIDENCE-BASED PROGRAMS

FOR STUDENTS WITH AUTISM

STAR® Autism Support

CEC 2020

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Comprehensive Programs

Address the Learning Characteristics of Students with Autism

- Impairments in **communication**
- Impairments in **social interaction**
- Restricted, repetitive **patterns of behavior** and/or interests
- Unusual responses to **sensory** experiences
- Difficulties with change of **routine, schedule**

U. S. Federal Education Definition: Section 300.8

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Consider Critical Life-Long Goals

Oregon Regional Programs Autism Working Group

- **To tolerate people and value interactions**
- **To communicate intentionally and effectively**
- **To organize information and learn meanings/purposes**
- **To tolerate change and accept new experiences**
- **To be independent of constant verbal directions**
- **To self-monitor and manage stress**

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Children With Autism Are Unique

Children with autism, like all children:

- ☆ Are unique in their strengths, abilities and preferences
- ☆ Learn at different rates.
- ☆ Some children with ASD need a lot of help in their daily lives; others need less

Children with autism often learn in different ways from children who are neurotypical.

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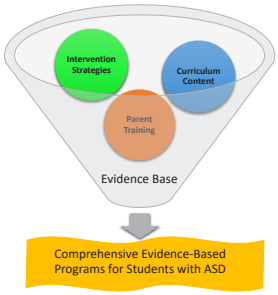

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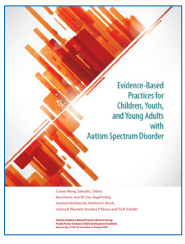
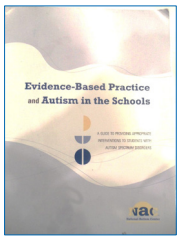
Research 2009, 2014, 2015

☆Reviewed and analyzed hundreds of international research articles





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Evidence-Based Practices

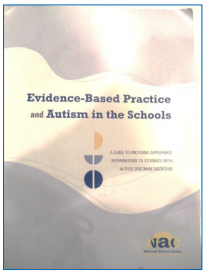
National Standards Report: Phase 1 (2009) and 2 (2015)

Pattern of findings suggest that treatments from the behavioral literature have the strongest research support at this time

Identified 14 established treatments

Comprehensive behavioral packages have the most evidence

www.nationalautismcenter.org



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National Standards Project

14 Established Treatments

- ☆ Comprehensive Treatment Packages
  - ★ ABA or Applied Behavior Analysis (Discrete Trial Training)
  - ★ The Links Curriculum is based on the principles of ABA
- ☆ Pivotal Response Training (PRT)
- ☆ Behavioral Interventions
- ☆ Schedules
- ☆ Self-Management (Promoting Independence)
- ☆ Language Training
- ☆ Parent Training
- ☆ Cognitive Behavioral Intervention
- ☆ Peer Training Package
- ☆ Modeling (Imitation of Target Behavior)
- ☆ Naturalistic Teaching Strategies (Child-directed to teach functional skills)
- ☆ Story-Based Intervention Package
- ☆ Social Skills Package
- ☆ Scripting

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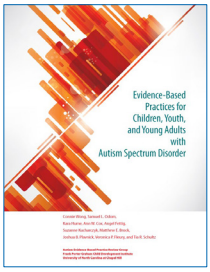
National Professional Development Center Report 2014



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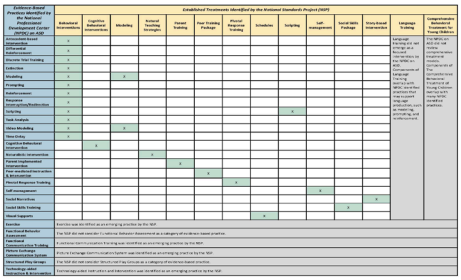
Research Guides Practice

National Professional Development Center on ASD and National Standards Report: Comparison

Comparison of NPDC and NSP Practices



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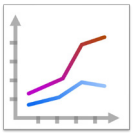
Research has shown that children can learn when provided intensive research-based interventions

Applied
Behavior
Analysis



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What is Applied Behavior Analysis (ABA)?

ABA is an umbrella term for methods that change behavior in systematic and measurable ways

- Teach new skills
- Reduce challenging behaviors
- Maintain skills across a variety of domains

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National Standards Report Established Treatments

Comprehensive Behavioral Treatment

- 0-9 age range
- Applied Behavior Analysis
  Early Intensive Behavioral Intervention
- Examples
  Discrete Trial Training
  Incidental Teaching
  Other ABA Interventions

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National Standards Report Established Treatments

Pivotal Response Training

- 3-9 age range
- Focus on pivotal behaviors that impact a wide range of functioning
  Self-management
- Motivations
  Self-initiations
  Responsivity to multiple cues

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National Standards Report Established Treatments

Behavioral Interventions

- 3-21 age range
- Applied Behavior Analysis
  Behavioral Psychology
  Positive Behavior Supports
- Examples
  Discrete Trial Training
  Functional Communication Training
  Token Economy

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National Standards Report Established Treatments

Language Training

- 3-9 age range
- Applied Behavior Analysis
  Behavioral Psychology
  Positive Behavior Supports
- Examples
  Discrete Trial Training
  Verbal Language Training

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National Standards Report Established Treatments

Self-Management

- 15-21 age range
- Promotes independence
  Teaches students with ASD to regulate their own behavior
  Self-reinforce
- Examples
  Task Analysis
  Checklists
  Wrist counters
  Visual Prompts

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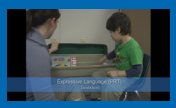
Evidence-Based Strategies

Video Examples and Progress Video



Pivotal Response Training
(PRT): Expressive Language

Discrete Trial Training
(DTT): Receptive Language

Self-Management :
Functional Routines

Progress: Two Years Later

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National Standards Report Established Treatments

Scripting

- 3-14 age range
- Language Training
  Provides a script for students to follow during situations
- Examples
  Verbal/written/visual scripts

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National Standards Report Established Treatments

Modeling

- 3-18 age range
- Demonstration of target behavior that results in an imitation of the target behavior
- Live modeling
  Video modeling

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National Standards Report Established Treatments

Schedules

- 3-9 age range
- Presentation of task list that communicates a series of activities
- Examples
  Written words
  Pictures/Photos
  Work Stations
  Reinforcement Strategies

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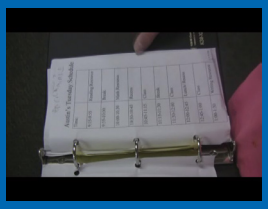
Student Schedules



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National Standards Report Established Treatments

Peer Training Packages

- 3-14 age range
- Teaching students without disabilities strategies for facilitating play and social interactions
- Examples
  Peer Networks
  Circle of friends
  Peer-mediated social interactions

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National Standards Report Established Treatments

Social Skills

- 13-18 age range
- Socially appropriate behavior with others
  Builds foundational skills for learning
- Examples
  Sharing
  Taking turns
  Social rules

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Peer Tutoring, Social Skills and Modeling

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National Standards Report Established Treatments

- Naturalistic Teaching Strategies
  - 0-9 age range
  - Child directed interactions within natural environment
  - Examples
    Incidental teaching
    Mileu teaching
    Embedded teaching

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National Standards Report Established Treatments

- Story-based intervention package
  - 3-14 age range
  - Written description of the situation in which specific behaviors are expected
  - Answer the "who", "what", "when", "where" and "why"

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National Standards Report Established Treatments

- Parent Training Package
  - 0-18 age range
  - Train parents to implement evidence-based practices
  - Individual training
    Group training

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National Standards Report Established Treatments

- Cognitive Behavioral Intervention
  - 6-14 age range
  - Focuses on interpersonal skills and personal responsibility
    Emotional Regulation
  - Manualized Cognitive Behavioral Programs

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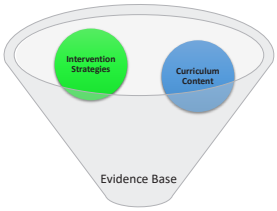

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Curriculum Content

Intensive Instruction in:

- ☆ Receptive Language
- ☆ Expressive Language
- ☆ Academic Skills
- ☆ Social Interaction Skills

- ☆ Functional Routines
  - ★ Preschool Routines
    - ☆ Snack, circle, centers
    - ☆ Transition
  - ★ Elementary School Routines
    - ☆ Large group instruction,
    - ☆ Transition between classes
  - ★ Middle/HS Routines
    - ☆ School and Community

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Intensity of Instructional Time

1. Research indicates the need for sufficient daily 1:1 instruction to learn new skills
2. ABA principles can be integrated throughout the student's day
3. Skill instruction should occur within daily routines to ensure generalization of skills learned

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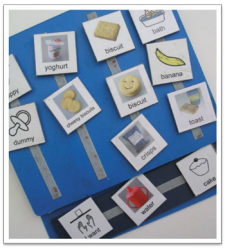
Curricula – ABA Examples

STAR Program - Links Curriculum - Picture Exchange Communication System - VB Mapp (assessment only)



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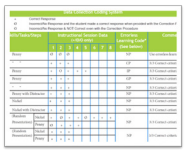
Curriculum Components

STAR Program • Links Curriculum

Assessment

Lesson Plans

Data Collection



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Research on the STAR Program

- ☆ Oregon Autism Outcome Study. (Arick, J., Young, H., Falco, R., Loos, L., Krug, D., Gense, M. and Johnson, S., 2003).
  Students made significant progress in the areas of expressive language, receptive language, social skills, academics, and independence on functional routines.
- ☆ Philadelphia Autism Instructional Methods Study (AIMS) represents an academic-public partnership designed to improve intervention quality for elementary school children with autism in the School District of Philadelphia. Mandell (2010).
  Results of the study indicated students made clinically significant gains in classrooms where STAR was implemented with fidelity.
- ☆ Randomized, Controlled Trial of a Comprehensive Program for Young Students with Autism Spectrum Disorder (Young, Falco and Makato, 2015).
  The Comprehensive Autism Program "had a positive statistically significant impact on students' outcomes for receptive language and social skills at school compared to students' outcomes in the control group schools." The comprehensive program included the STAR Program.
- ☆ Measuring Outcomes in Early Intervention Program. (Bacon, E., Dufek, S., Schreibmann, L., Stahmer, A., Pierce, K. and Courchesne, E. 2014)
  Children in early intervention programs made significant skill gains.
  Student Learning Profile correlated highly with standardized measures.
- ☆ Training Teachers to Use Evidence-Based Practices for Autism: Examining Procedural Implementation Fidelity.
  Fidelity of implementation of the ABA practices used in the STAR Program was found to be adequate following training in a large urban school district.

For more information, visit www.starautismsupport.com/curriculum/research

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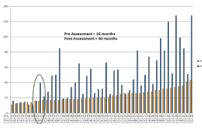
Example Outcome Studies Using the STAR Program

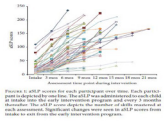
***References are at the end of the ppt**

Outcome Study (2003)

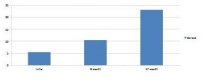


ORPATS Study Results 2009-2011

Measuring Outcomes study (2014)



Expressive Vocabulary Test (EVT-2) Average Expressive Age Equivalent in Months



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Curriculum for Middle and High School Students

Independence - Self-management - Social Skills

SCHOOL

COMMUNITY

VOCATIONAL

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Example of Evidence-Based Program for Secondary Students: Links Curriculum

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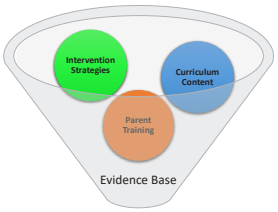

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Parent Involvement

National Autism Center (2009):

- The values and preferences of parents, care providers, and the individual with ASD should be considered.

National Research Council (2004):

- Characteristics of effective interventions include inclusion of a family component, including parent training.

Manualized Parent Training Programs:

- Teaching Social Communication to Children with Autism (Ingersoll and Dvortcsak, 2010)
- Parent Training for Disruptive Behaviors (Bearss, Johnson, Handen, Butter, Lecavalier, 2015)

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Effective Parent Communication

Parent Training Information and Supports-STAR Series

- S1 **Session 1:** First step: Identifying Strategies that Work
- S2 **Session 2:** Behavior Principals: Why Does My Kid Do That?
- S3 **Session 3:** Behavior Principals: Challenging Behavior and Taming the Tantrum
- S4 **Session 4:** Teaching and Reinforcing Receptive Language Skills
- S5 **Session 5:** Teaching Kids Appropriate Communication and Language Skills
- S6 **Session 6:** Same Stuff, Different Day: Teaching Skills Through Functional Routines
- S7 **Session 7:** Visualize It: Using Supports Effectively
- S8 **Session 8:** Map It Out: Writing Effective Behavior Support Plans
- S9 **Session 9:** The Fun Part: Fostering Play and Social Skills
- S10 **Session 10:** Overcoming Mealtime Challenges
- S11 **Session 11:** The Small Stuff: Mastering Fine Motor Skills
- S12 **Session 12:** Bathroom Break: Tools for Toilet Training

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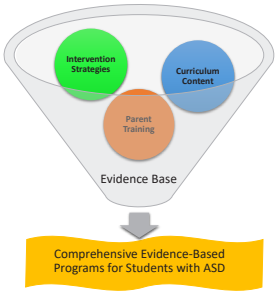

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- National Autism Center (2015). *National Standards Project findings and conclusions: Addressing the need for evidence-based practice guidelines for autism spectrum disorders*. Randolph, MA: National Autism Center.
- Stahmer, A. C., Suhrheinrich, J., Reed, S., Schreibman, L., & Bolduc, C. (2001). *Classroom pivotal response teaching for children with autism*. New York: Guilford Press.
- Young, H., Falco, R. and Makoto, H. (2015). Randomized, controlled trial of a comprehensive program for young students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 46, 544-560.

Note: The Outcome Study article and full report is available on the OrPATS.org website

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Research Validation for STAR and Links

STAR Program Research Validation

The Autism Outcome Study: Enrolled over 122 children in public pre-school and school-age programs over a five year period. These programs included rural, suburban and urban schools. The project staff provided training in the STAR Program and a separate team of researchers conducted assessments of the students to monitor their progress. The students made significant progress in all areas of instruction. In particular, students made significant progress in the areas of expressive language, receptive language, social interaction skills, academics and independence on functional routines. (Arick, Young, Falco, Loos, Krug, Gense, & Johnson, 2003; Arick, Young, Falco, Loos, Krug, Gense and Johnson, 2004). Ninety-one percent of the students made progress in the expressive language area. The project has continued to evaluate student progress and has found consistent results as those obtained in the initial Autism Outcome Study (Arick, Willis, Nakada, 2011).

The Autism Instructional Methods Study (AIMS): The AIMS project was a comprehensive study of effective educational practices in a large urban school district. The STAR Program, and training in the curriculum, composed the core elements for a three-year study involving thirty-four K-3 classrooms for students with autism. This study was a randomized control trial funded by the National Institute of Health (NIH) and the Institute of Education Sciences (IES). The study was conducted by the University of Pennsylvania's Center for Autism Research and the Children's Hospital of Philadelphia. Students in the STAR Program showed significantly greater gains than the experimental group when program fidelity was obtained (Mandell, 2010, 2011).

Measuring Outcome in Early Intervention Program for Toddlers with Autism Spectrum Disorder: Results of this study found that students who were provided early intervention using the STAR Program made significant progress over a two year period of time. The study also found that the STAR Student Learning Profile correlated highly with other standardized measures and provided additional useful information about student skills learned (Bacon, Dufek, Schreibman, Stahmer, Pierce and Courchesne, 2014).

The STAR Program is research-validated by multiple independent randomized control trials (including IES and NIH Grants).

Links Curriculum Research Validation

A major field test was conducted in the state of Oregon during 1999-2000 to determine the reliability and validity of the measurement system that is utilized in the Links Curriculum. Thirty school districts, 133 instructors, and 478 students with moderate to severe disabilities participated in the study (Arick, Nave, & Hoffman, 2000). Extensive reliability and validity studies were conducted. Test-retest and inter-observer reliability were found to be high. Assessment validity correlated with the Vineland Adaptive Behavior Scales. It was found to measure independence levels in students with significant disabilities including students with autism. Further information can be found in the implementation guide.

A study was implemented by a group of instructors residing in several areas of the U.S. A pre-post single subject design was utilized. At the conclusion of the study, an analysis of the pre-post results was conducted. Data from the study indicated that 90% of the students improved across all routines selected. This indicates that 90% of the students made progress on their selected routines. Further information on this study can be found in the implementation guide.

Evidence-based Practices as Suggested by the National Professional Development Center and National Standard Project

	STAR	LINKS
Comprehensive Behavioral Treatment	X	X
Discrete Trial Training	X	X
Antecedent Package (ABA, positive behavior supports, token systems, FBA)	X	X
Behavioral Package (ABA, positive behavior supports, token systems, FBA)	X	X
Pivotal Response Training	X	N/A
Schedules	X	X
Self-management (promoting independence)	X	X
Task Analysis	X	X
Joint Attention Training	X	X
Modeling and Imitation	X	X
Naturalistic Teaching Strategies	X	X
Functional Communication	X	X
Social Skills Training	X	X
Visual and Environmental Supports	X	X
Reinforcement	X	X
Independent Work Systems	X	X
Prompting Strategies	X	X
Computer Aided Instruction	N/A	

References

National Autism Center (2015). National Standards Project findings and conclusions: Addressing the need for evidence-based practice guidelines for Autism Spectrum Disorders. Randolph, MA: National Autism Center.

Wong, C., Odom, S.I., Hume, K., Cox, A.W., Fettig A., Kucharczyk, S., Schultz, T.R. (2013) Evidence-based practices for children, youth and young adults with Autism Spectrum Disorder. Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group.