Sources of Evidence-based Practices in Special Education: An Brief Overview

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Sources reviewed (i.e., Best Evidence Encyclopedia, journal articles, National Autism Center, National Center on Response to Intervention, National Professional Development Center on Autism Spectrum Disorders, National Secondary Transition Technical Assistance Center, Promising Practices Network, What Works Clearinghouse) apply standards related to research design, methodological quality, quantity, and magnitude of effect of supporting research to identify effective or evidence-based practices for children and youth with disabilities.

I briefly review identified sources related to: name of organization and website, general purpose of organization, categorization scheme, specific evidence-based practices for children and youth with disabilities, additional features of website/ source. See websites for specific information on standards applied.
Best Evidence Encyclopedia
http://www.bestevidence.org/

General
“The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education. It is intended to give educators and researchers fair and useful information about the strength of the evidence supporting a variety of programs available for students in grades K-12.

Categories
Practices are categorized as having strong, moderate, or limited (with strong evidence of modest effects, or with weak evidence of notable effects) effects.

Evidence-based Practices
Of particular relevance for special educators, one of the areas of review reported on the BEE is “struggling readers.” The BEE identifies 8 programs as having strong evidence of effectiveness:
- Success for All
- Direct Instruction/ Corrective Reading
- Peer Assisted Learning Strategies (PALS)
- Reading Recovery
- Targeted Reading Intervention
- Quick Reads
- One-to-One Teacher Tutoring with Phonics Emphasis
- One-to-One Paraprofessional/ Volunteer Tutoring with Phonics Emphasis

Additional Features
Email contacts and website URLs are provided for each EBP. Links to Educator’s Summaries or Guides, with details on the reviews conducted for each topic area (including effect sizes), are provided.

Journal Articles

General
A variety of author teams have employed the standards proposed by Gersten et al. (2005) and Horner et al. (2005) for identifying evidence-based practices in special education on the basis of group experimental and single-subject research studies, respectively.

Categories
Gersten et al. (2005) provided standards to categorize practices as evidence-based and promising on the basis of group experimental research.

Horner et al. (2005) provided standards to categorize practices as evidence-based (or not evidence-based) on the basis of single-subject research.

Evidence-based Practices (with article reference)
Cognitive strategy instruction found to be an evidence-based practice for reading comprehension of expository text for students with LD.


Self regulated strategy development (SRSD) for writing found to be an evidence-based practice for writing for students with or at-risk of LD.


Time delay found to be an evidence-based practice for literacy for students with severe developmental disabilities.


Using a reduced set of quality indicators, found time delay (for sight word vocabulary and fluency) and pictures (for reading comprehension) as EBPs.


**Additional Features**

Articles provided definitions and descriptions of practices, as well as descriptions of and references for research studies reviewed.

**National Autism Center**


**General**

“The National Autism Center is May Institute's center for the promotion of evidence-based practice. It is a nonprofit organization dedicated to serving children and adolescents with Autism Spectrum Disorders (ASD) by providing reliable information, promoting best practices, and offering comprehensive resources for families, practitioners, and communities.

In 2009, the National Autism Center completed an unprecedented multi-year project — the National Standards Project — to establish a set of standards for effective, research-validated
educational and behavioral interventions for children on the spectrum. These standards identify treatments that effectively target the core symptoms of ASD.”

**Categories**
The NAC identifies practices as established, emerging, unestablished, ineffective, and harmful.

**Evidence-based Practices**

*Established Treatments:*
- Antecedent Package
- Behavioral Package
- Comprehensive Behavioral Treatment for Young Children
- Joint Attention Intervention
- Modeling
- Naturalistic Teaching Strategies
- Peer Training Package
- Pivotal Response Treatment
- Schedules
- Self-management
- Story-based Intervention Package

*Emerging Treatments:*
- Augmentative and Alternative Communication Device
- Cognitive Behavioral Intervention Package
- Developmental Relationship-based Treatment
- Exercise
- Exposure Package
- Imitation-based Interaction
- Initiation Training
- Language Training (Production)
- Language Training (Production & Understanding)
- Massage/Touch Therapy
- Multi-component Package
- Music Therapy
- Peer-mediated Instructional Arrangement
- Picture Exchange Communication System
- Reductive Package
- Scripting
- Sign Instruction
- Social Communication Intervention
- Social Skills Package
- Structured Teaching
- Technology-based Treatment
- Theory of Mind Training

**Additional Features**
Summary tables for each of the reviewed practices in the *National Standards Report* include
treatment definition, skills increased and (undesirable) behaviors decreased by the treatment in the research, age range with which the treatment is effective, and diagnosis classification (i.e., autistic disorder, Asperger’s syndrome, PDD-NOS).

The Evidence-Based Practice and Autism in the Schools Educator Manual (http://www.nationalautismcenter.org/pdf/NAC%20Ed%20Manual_FINAL.pdf) provides information on understanding Autism Spectrum Disorders, integrating professional judgments and data-based decision-making, incorporating family values and preferences, building and sustaining capacity to deliver treatments that work, and definitions and descriptions of each of the 11 established treatments.

National Center on Response to Intervention

General
“The American Institutes for Research and researchers from Vanderbilt University and the University of Kansas -- through funding from the U.S. Department of Education's Office of Special Education Programs (OSEP) -- have established the National Center on response to intervention. The Center’s mission is to provide technical assistance to states and districts and building the capacity of states to assist districts in implementing proven models for RTI/EIS [early intervening services].”

Categories
The NCRTI does not categorize practices as evidence-based per se. Rather, the center rates various elements of studies on interventions that might be used as part of RTI (i.e., participants, research design, fidelity of implementation, and measures). Evidence related to participants is rated as convincing or unconvincing, whereas evidence for the other elements are rated as convincing, partially convincing, or unconvincing.

Additionally, information on effect sizes for reviewed studies are provided (i.e., number of outcome measures, mean effect sizes based on adjusted and unadjusted posttests, availability of disaggregated data).

Consumers can then determine the quality and level of research support for a particular practice based on this information.

Evidence-based Practices
- Stepping Stones to Literacy (2 studies rated as having convincing evidence across all areas with moderate/large effects for reading outcomes)
- Self-regulated Strategy Development (SRSD) for Writing (1 study rated as having convincing evidence across all areas; 2 other studies rated as having a partially convincing design but all other areas convincing with moderate to large effect sizes)
- Sound Partners Kindergarten (1 study rated as having convincing evidence across all areas; 1 study rated as having a partially convincing design but all other areas convincing with small to moderate effect sizes)
**Additional Features**
 Provides information on each program/practice related to descriptive information (general overview of how to implement the practice), usage (with whom and where the practice has been implemented), acquisition and cost, program specifications and requirements, and training. Citations for research studies reviewed provided. Site also includes ratings for progress monitoring and screening tools that can be used in RtI.

**National Professional Development Center on Autism Spectrum Disorders**
[http://autismpdc.fpg.unc.edu/content/evidence-based-practices](http://autismpdc.fpg.unc.edu/content/evidence-based-practices)

**General**
“The National Professional Development Center on Autism Spectrum Disorders is a multi-university center to promote the use of evidence-based practice for children and adolescents with autism spectrum disorders. The Center operates through three sites that include the FPG Child Development Institute at the University of North Carolina at Chapel Hill, the M.I.N.D. Institute at University of California at Davis Medical School, and the Waisman Center at the University of Wisconsin at Madison. Each year, three states are selected through a competitive application process for a two-year partnership with the Professional Development Center. The Center works in coordination with each state’s Department of Education, Part C agency, and University Center for Excellence in Developmental Disabilities to provide professional development to teachers and practitioners who serve individuals from birth through twenty-two years with autism spectrum disorders.”

**Categories**
The NPDC on ASD uses a threshold approach in which practices are identified as EBPs or not.

**Evidence-based Practices**
* Antecedent-Based Interventions (ABI)
* Computer-Aided Instruction
* Differential Reinforcement
* Discrete Trial Training
* Extinction
* Functional Behavior Assessment
* Functional Communication Training
* Naturalistic Intervention
* Parent-Implemented Interventions
* Peer-Mediated Instruction and Intervention
* Picture Exchange Communication System (PECS)
* Pivotal Response Training
* Prompting
* Reinforcement
* Response Interruption/Redirection
* Self-Management
* Social Narratives
Additional Features
After completing the free registration process at http://www.autisminternetmodules.org/user_reg.php, users can access autism internet modules that contain various information (e.g., videos) about the EBPs.

Links provided to EBP Briefs, which provide (a) an overview of the EBP (e.g., number of studies meeting criteria, age range for which EBP has been found to be effective in supporting research, skills or intervention goals addressed by the EBP in research, settings in which the EBP has been shown to be effective in research), (b) references for supporting research studies, (c) step by step instructions for implementation, (d) an implementation fidelity checklist, and (e) data collection forms to evaluate the effectiveness for each EBP.

National Secondary Transition Technical Assistance Center
http://www.nsttac.org/ebp/ebp_main.aspx

General
“NSTTAC is a national Technical Assistance and Dissemination center funded from January 1, 2006 through December 31, 2010 by the U.S. Department of Educations Office of Special Education Programs (OSEP) (Award #H326J050004).” Its purpose is “to assist states to build capacity to support and improve transition planning, services, and outcomes for youth with disabilities.”

NSTTAC reviewed the literature to identify EBPs in 5 areas: student-focused planning, student development, interagency collaboration, family involvement, and program structure.

Categories
NSTTAC uses three categories to describe the level of evidence for causal inference (i.e., that a practice causes improved outcomes): Strong, moderate, and potential.

Evidence-based Practices
Student-focused planning: involving students in the IEP process, the Self-Advocacy Strategy, and the Self-Directed IEP all have moderate levels of evidence.

Student development: Teaching functional life skills and teaching purchasing skills have high levels of evidence. A number of areas of life skills instruction and (e.g., social skill training; teaching self-determination skills, banking skills, grocery shopping skills, safety skills) and
employment skills instruction (e.g., self-management for employment, computer assisted instruction) have moderate levels of evidence.

**Interagency collaboration:** No practices identified.

**Family involvement:** Training families has a moderate level of evidence.

**Program structure:** Community-based instruction and extending services beyond secondary school have moderate levels of effect.

**Additional Features**
For each reviewed program, information is provided on “With whom is it implemented?” (i.e., disability categories, age range, gender, and ethnicity), “What is the practice?” (i.e., an overview of the practice), “How has the practice been implemented?” (i.e., steps involved in implementing the practice), “Where has it been implemented?” (i.e., settings in which the practice was implemented in reviewed research), “How does this practice related to national standards?”, “Where is the best place to find out how to do this practice?” (i.e., links to useful information on implementing the practice), and “Reference(s) used to establish evidence base.”

**Promising Practices Network**
[http://www.promisingpractices.net/](http://www.promisingpractices.net/)

**General**
“The PPN website is a unique resource that offers credible, research-based information on what works to improve the lives of children and families.” Practices examined in the following areas: Healthy and Safe Children, Children Ready for School, Children Succeeding in School, and Strong Families.

**Categories**
The PPN categorizes practices as proven, promising, or screened.

**Evidence-based Practices**
In the area of *Children Succeeding in School:*

**Proven Practices:**
- Big Brothers Big Sisters of America
- Carolina Abecedarian Project
- Child-Parent Centers
- Class Wide Peer Tutoring Program
- The Effective Learning Program
- HighScope Perry Preschool Program
- New Hope Project
- Nurse Family Partnership

**Promising Practices:**
- Accelerated Academics Academy (AAA)
Child Development Project
Cognitively Guided Instruction (CGI)
Communities In Schools
Cooperative Integrated Reading and Composition
Core Knowledge
Direct Instruction
Early Intervention in Reading
Parents as Teachers
Partners in Reading
Peer-Assisted Learning Strategies
Reading Recovery
Reciprocal Teaching
Resolving Conflict Creatively Program (RCCP)
Seattle Social Development Project
Student Achievement Guarantee in Education (SAGE)
Syracuse Family Development Research Program
Team Accelerated Instruction: Math
Teen Outreach Program

Additional Features
The PPN provides extensive information on the practices reviewed in the following areas:
Program Info, Program Overview, Program Participants, Evaluation Methods, Key Evaluation
Findings, Probable Implementers, Funding, Implementation Detail, Issues to Consider, Example
Sites, Contact Information, Available Resources, Bibliography, (date) Last Reviewed

What Works Clearinghouse
http://ies.ed.gov/ncee/wwc/

General
“Established in 2002, the What Works Clearinghouse (WWC) is a central and trusted source of
scientific evidence for what works in education. … The WWC:
* Produces user-friendly practice guides for educators that address instructional challenges
  with research-based recommendations for schools and classrooms;
* Assesses the rigor of research evidence on the effectiveness of interventions (programs,
  products, practices, and policies), giving educators the tools to make informed decisions.”

Topic areas include Adolescent Literacy, Beginning Reading, Early Childhood Education for
Students with Disabilities, Elementary School Math, English Language Learners, High School
Math, Middle School Math, Students with Learning Disabilities, Character Education, Dropout
Prevention, Early Childhood Education, and Emotional or Behavioral Disorders (currently in
progress).

Categories
Practices categorized as having positive, potentially positive, mixed, no discernible, potentially
negative, or negative effects.
Evidence-based Practices
In the topic area of Early Childhood Education for Students with Disabilities, Dialogic Reading reported to have potentially positive effects on communication and language competencies; and Lovaas Model of Applied Behavior Analysis reported to have potentially positive effects on cognitive development.

In the topic area of Students with Learning Disabilities, The Lindamood Phoneme Sequencing® (LiPS®) program reported to have potentially positive effects in alphabetics, reading fluency, and math; and Read Naturally® reported to have potentially positive effects in writing.

Interventions with positive effects in other areas include:
Beginning Reading: DaisyQuest (for alphabetics), Earobics (for alphabetics), Fast ForWord (for alphabetics), Reading Recovery® (for alphabetics and reading achievement), Sound Partners (for alphabetics, reading comprehension, and reading fluency), SpellRead™ (for alphabetics), Stepping Stones to Literacy (for alphabetics), Success for All® (for alphabetics)
Character Education: Positive Action (for academic achievement and behavior), Too Good for Drugs and Violence (for knowledge, attitudes, and values)
Drop out Prevention: Accelerated Middle Schools (for progressing in school), Check & Connect (for staying in school)
Early Childhood Education: Building Blocks for Math (SRA Real Math) (for mathematics achievement), DaisyQuest (for phonological processing), Dialogic Reading (for oral reading), Literacy Express (for oral language, phonological processing, and print knowledge), Phonological Awareness Training (for phonological processing), Phonological Awareness Training plus Letter Knowledge Training (for print knowledge), Pre-K Mathematics (for mathematics achievement)
English Language Learners: Peer Tutoring and Response Groups (for English language development)
Middle School Math: I CAN Learn® Pre-Algebra and Algebra (for mathematics achievement)

Additional Features
The WWC provides Intervention Reports on reviewed practices that include
- Program Description
- Additional Program Information (e.g., developer and contact information, teaching procedures, cost)
- Research (e.g., specific descriptions of studies that meet evidence standards with or without reservations, extent of evidence rating [small or medium to large depending on number and sample sizes of studies meeting evidence standards])
- Effectiveness (e.g., rating of effectiveness [positive, potentially positive, mixed, no discernible, potentially negative, or negative effects], improvement index [represents the difference between the percentile rank of the average student in the intervention condition and the percentile rank of the average student in the comparison condition])
- References (for studies reviewed that did or did not meet evidence standards)