ECHO AUTISM COMMUNITIES
Early Intervention

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ECHO AUTISM COMMUNITIES | **Project ECHO®**

Fact or Fallacy: What is an evidence-based practice?

Brittney Stevenson
MOT, OTR/L

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ECHO Autism: Early Intervention Continuing Education

Successful Completion
• Successful completion of this activity, which includes participating in the educational offering, participating in the evaluation process, and completing the verification of attendance, enables the learner to satisfy the requirements for continuing education.

Continuing Medical Education (CME)
• *The University of Missouri - Columbia School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.*

• The University of Missouri - Columba School of Medicine designates this **live** educational activity for a maximum of *1.5 AMA PRA Category 1 Credit(s)™*. Physicians should only claim the credit commensurate with the extent of their participation in the activity.

American Speech-Language-Hearing Association (ASHA)
• The Missouri Speech-Language-Hearing Association is approved by the Continuing Education Board of the American Speech-Language-Hearing Association (ASHA) to provide continuing education activities in speech-language pathology and audiology.
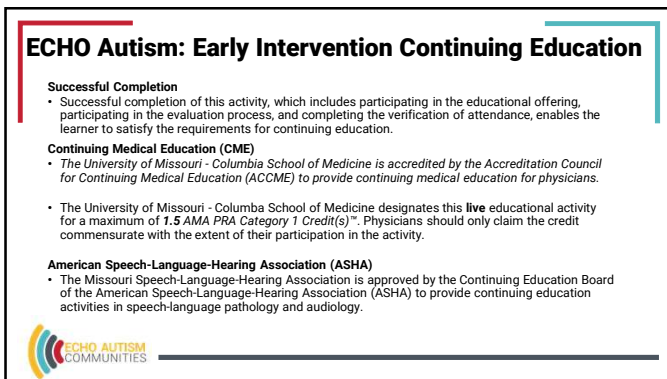
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ECHO Autism: Early Intervention Speaker Disclosure

LPC, Social Work, Psychology, 50-minute hour CEs
The University of Missouri Continuing Education for Health Professions (CEHP) is part of an accredited university in the state of Missouri. As such, this program meets the requirements for Licensed Professional Counselors, Psychologists, and Social Workers with Missouri licenses. CEHP attests that this program contains **1.5** clock hours of instructional time. Licensed professionals measuring CE credit based on a 50-minute hour may claim up to **1.8** Contact Hours for full attendance at this program.

Relevant Financial Relationship Disclosures
Current ACCME (Accreditation Council for Continuing Medical Education) rules state that participants in CE activities should be made aware of any relevant affiliation or financial interest in the previous 24 months that may affect the planning of an educational activity or a speaker's presentation(s). Each planning committee member and speaker has been requested to complete a financial relationship reporting form for the **ECHO Autism: Early Intervention Series**

Kristin Sohl, MD,FAAP receives support:
- **Cognoa Behavior Health – research support**
- **Quadrant Biosciences – medical science collaborator**
All relevant financial relationships for the presenter(s) have been mitigated.

No other speaker or planning committee member has a relevant financial interest

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Learning Objectives

- The learner will describe evidence-based practices in autism spectrum disorders (ASD).
- The learner will learn how and where to find evidence-based practices for ASD.
- The learner will identify the 3 key elements to evidence-based practices.

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What is evidence-based practice?
A spectrum!

- 5 steps:
  - Formulate the clinical question
  - Search efficiently for best available evidence
  - Critically analyze evidence for its validity and usefulness
  - Integrate the appraise with personal clinical expertise and clients' preferences
  - Evaluate one's performance or outcomes of actions

- 3 key elements
  - Research
  - Clinical expertise
  - Experience

Susan H. Lin, Susan L. Murphy, Jennifer C. Robinson; Facilitating Evidence-Based Practice: Process, Strategies, and Resources. *Am J Occup Ther* 2010;64(1):164-171. doi: 10.5014/ajot.64.1.164.
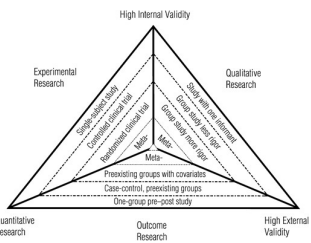
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Evidence Model

Table 1.
Traditional Single-Hierarchy Evidence Model (Arbesman et al., 2008)   ✕

Level No.	Description
I	Systematic reviews, meta-analyses, randomized controlled trials
II	Two groups, nonrandomized studies (e.g., cohort, case-control)
III	One group, nonrandomized (e.g., before and after, pretest and posttest)
IV	Descriptive studies that include analysis of outcomes (single-subject design, case series)
V	Case reports and expert opinion that include narrative literature reviews and consensus statements

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How to appraise research:

High Internal Validity

Experimental Research — Qualitative Research

Single-subject study
Controlled clinical trial
Randomized clinical trial
Study with one informant
Group study less rigor
Group study more rigor
Meta-
Meta-
Preexisting groups with covariates
Case-control, preexisting groups
One-group pre–post study

Quantitative Research — Outcome Research — High External Validity

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Guiding questions for evaluating research evidence

Am J Occup Ther. 2010;64(1):164-171. doi:10.5014/ajot.64.1.164

- Was the design appropriate for the research study and for answering the research question?
- Was the sampling plan appropriate? Does the sampling technique affect whether the findings could be generalized to different groups in practice or in the population?
- Could the nonresponse rate or number of people who dropped out of the study affect the results and generalizability?
- Was the sample size adequate? Was the sample size large enough for the statistical methods used and to ensure adequate power in determining the results?
- Was the statistical approach appropriate to answer the question?
- What were the results? Are the findings statistically significant?
- Are the findings clinically significant? How large were the treatment effects or effect size?
- Does the evidence pertain to my clinical situation? Are the populations or contexts in the study similar?
- Can the therapeutic intervention be implemented in my clinical setting (e.g., does it require special equipment or training)?

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OT interventions supported by research:

- Antecedent Package (prompting, stimulus control/environmental modification, time delay)
- Behavioral Package (PBS strategies, reinforcement, task analysis & chaining, response interruption/redirection, differential reinforcement, discrete trial training)
- Cognitive Behavioral Interventions (role-playing, rehearsing positive responses)
- Joint Attention Intervention (responding to a peer's request to engage in joint attention)
- Modeling (live or video modeling)
- Naturalistic Interventions (child directed interactions, encouraging conversation, providing choices/natural reinforcers, embedded teaching, incidental teaching)
- Parent Implemented Interventions (ABA principles, teaching self-help, self-regulation and some communication skills)
- Peer Mediated Interventions (peer networks, circle of friends, buddy skills package, Integrated Play Groups, peer initiation training and peer mediated social interactions)
- Pivotal Response Training (principles of ABA)
- Schedules (written words, pictures or work stations)
- Self-management (checklists, wrist counters, visual prompts, tokens)
- Social Communication Intervention (Social Stories, video modeling, social problem solving, scripting procedures, priming procedures, self-monitoring)
- Social Narratives (Social Stories)
- Social Skills Intervention (role playing, feedback to promote positive social interaction)
- Structured Work Systems (TEACCH – visually organized space where learners independently practice skills that have been mastered).
- Supported Employment (job coaches, etc)
- Technology based treatment (voice output communication devices, tactile/auditory prompts, model appropriate behavior, promote spontaneous requesting
- Visual Supports (pictures, words, objects within the environment, maps, arrangement of environment/visual boundaries, schedules, labels, timelines, scripts, organizational systems)

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Where can I find this info?

- www.otseeker.com
  - Online database of systematic reviews & RCTs
- Practice based learning groups (ECHO)!
- Online communities (CommunOT)
- Journal clubs (AOTA has toolkit online)
- AJOT Evidence-Based Practice Resource Directory
- AJOT Children & Youth Critically Appraised Papers
- Podcasts (Everyday Evidence by AOTA)
- Reach out to local academic institution

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Resources

- https://www.autismguidelines.dmh.mo.gov/
  - Missouri Autism Guidelines Initiative
- Susan H. Lin, Susan L. Murphy, Jennifer C. Robinson; Facilitating Evidence-Based Practice: Process, Strategies, and Resources. *Am J Occup Ther* 2010;64(1):164-171. doi: 10.5014/ajot.64.1.164.
- Kent, C., Cordier, R., Joosten, A., Wilkes-Gillan, S., Bundy, A., Speyer, R. (2019) A Systematic Review and Meta-analysis of Interventions to Improve Play Skills in Children with Autism Spectrum Disorder. *Review Journal of Autism and Developmental Disorders*. https://doi.org/10.1007/s40489-019-00181-y

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