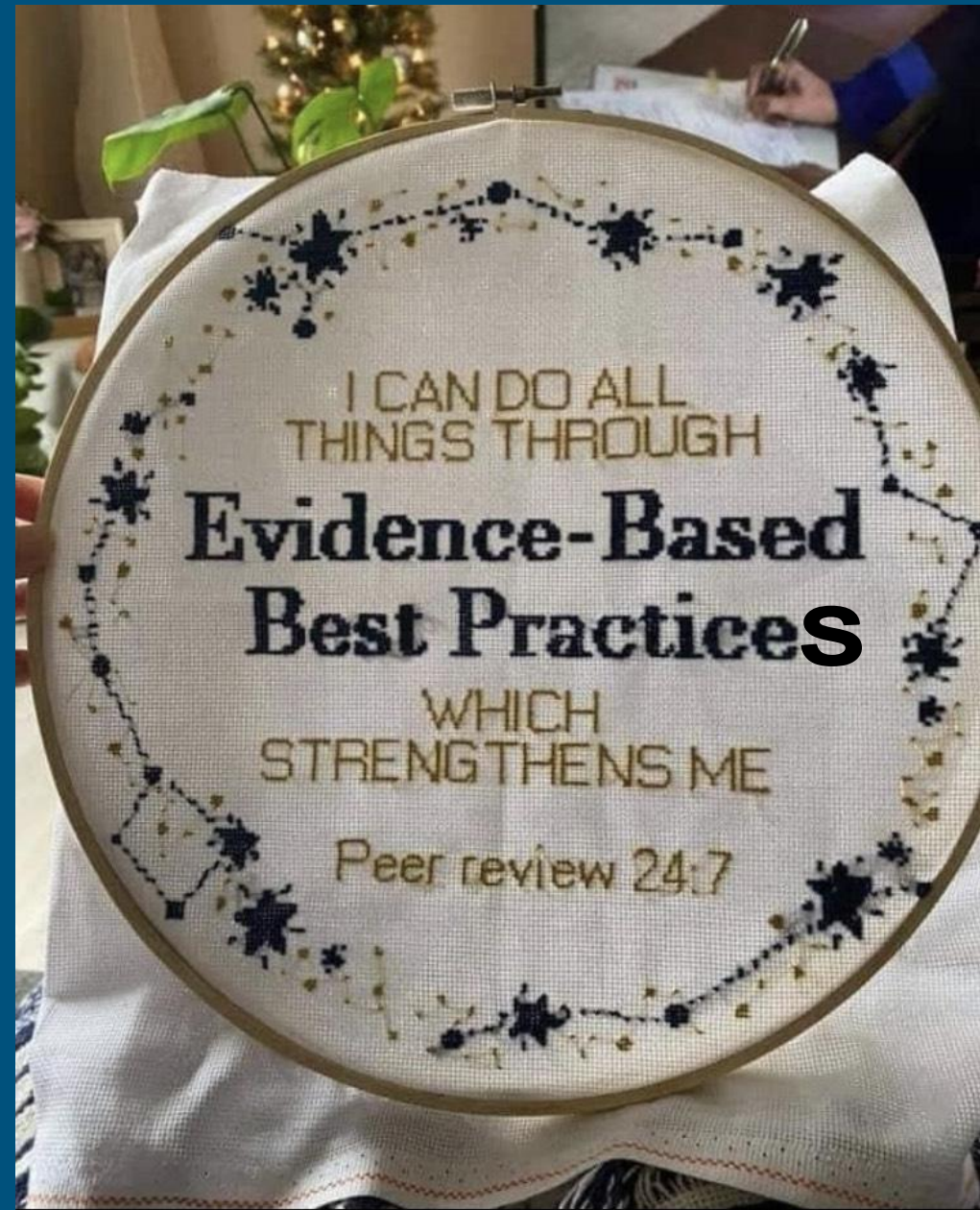


Evidence-Based Practices

*Identification and dissemination of the
best available evidence*

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Today's Discussion

- Part 1: Identification of EBPs
 - Terminology Review
 - General process for EBP review
 - Standards used in Special Education
 - Analyze one published EBP review
- Part 2: Dissemination of EBPs
 - Resources for practitioners
 - Sources for EBPs
 - Considerations and challenges for supporting implementation

Objectives

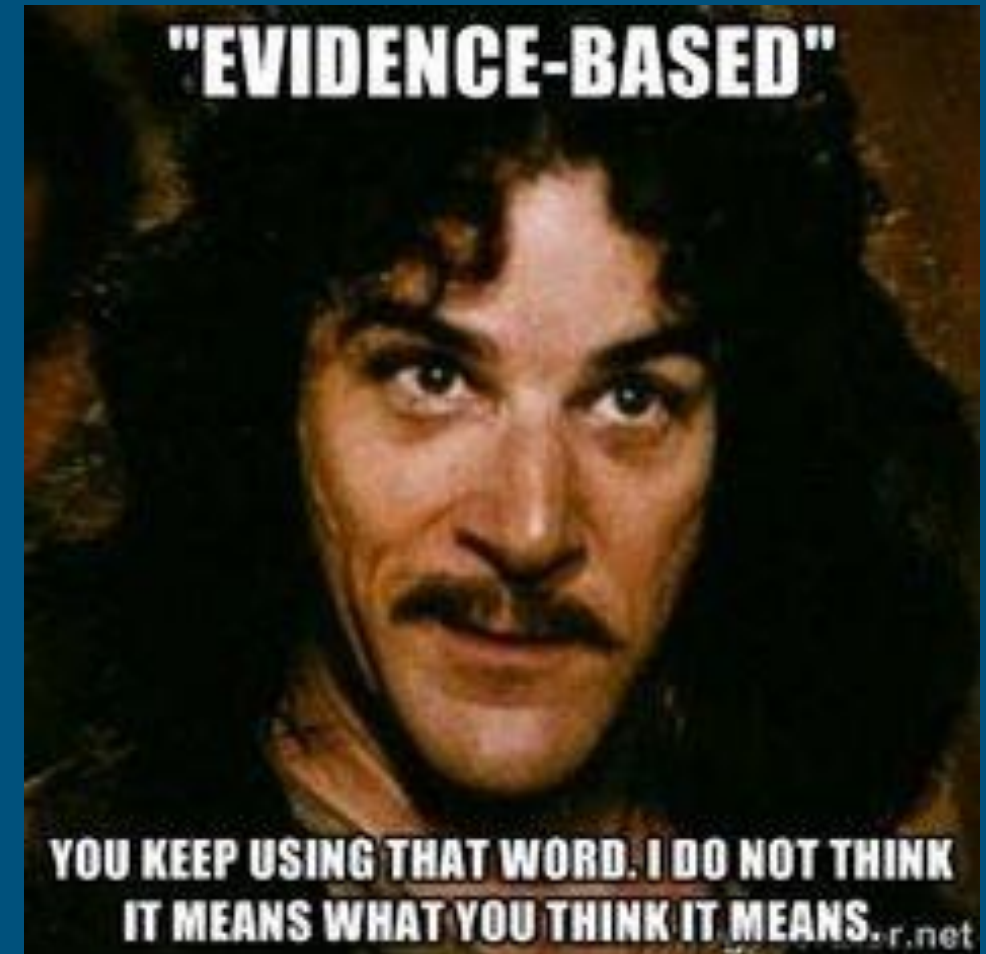
1. Understand the differences between evidence-based practices (EBPs) and related terms.
2. Describe three unique characteristics of an evidence-based review.
3. Examine components of an evidence-based review to
 - a. identify strengths/limitations
 - b. discuss findings and implications for practice
4. Discuss considerations and challenges to supporting the implementation of EBPs.

Effective Practices in Special Education

- Definition
 - a practice that has positive and socially meaningful effects
- Identification
 - Scientific research is the most reliable way to determine “what works”
 - More research, more confidence
- Importance
 - critical for meeting the unique needs of students with disabilities

Related Terminology

Term	Synonyms	Definition
Best Practice	Recommended practice	<ul style="list-style-type: none">• May or may not be evidence based• May be promoted because of research, expert opinion, theory
Research-based practices	Promising practices	<ul style="list-style-type: none">• Supported by some research but may not meet standards for design, quantity or quality to be an EBP



What are Evidence Based Practices (EBPs)?

- Represent practices with the best of evidence of “what works”

Research Design	Experimental
Quality	<ul style="list-style-type: none">• Description of context/setting, participants, interventionist, practice• implementation fidelity• internal validity• outcome measure/data analysis
Quantity	a number of high quality studies support a practice’s effectiveness
Magnitude of effect	positive and meaningful effects

AND (in the most conservative application of the definition)

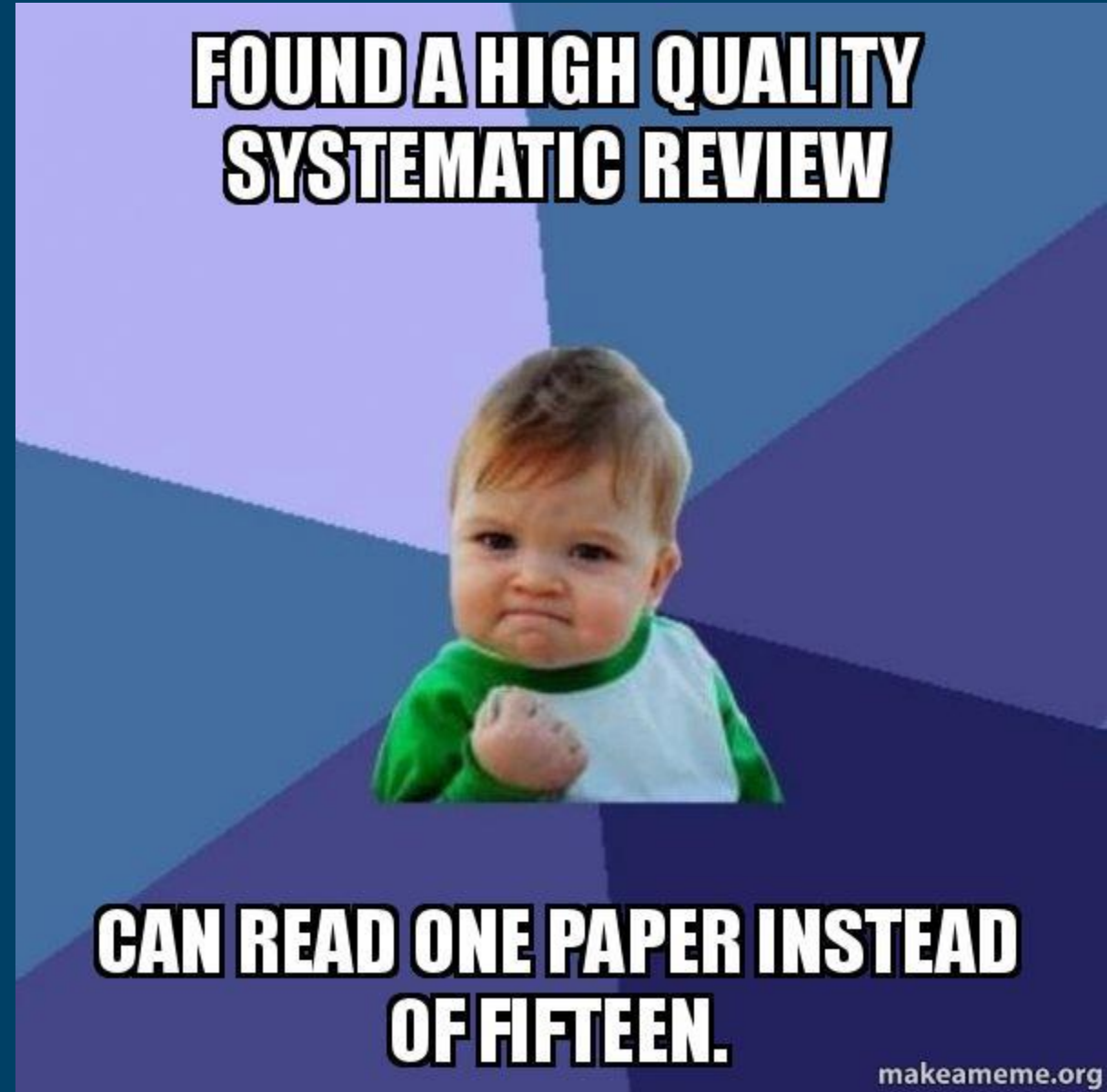
- Have been classified as such through a **FORMAL EVIDENCE-BASED REVIEW**

Why EBPs?

- No one study is perfect
 - Researchers conduct systematic reviews to synthesize the findings across studies
 - Example: Video modeling
- IDEA
 - *Scientifically validated, scientifically based, research based*
 - EBPs critical for specially designed instruction
 - meet individual needs
 - improve outcomes
- ESSA
 - *evidence-based* strategies, intervention, coursework
- Benefits
 - More likely that student outcomes will be improved
 - Less trial and error
 - less time wasted

Evidence Based Reviews

A type of Systematic Review



**FOUND A HIGH QUALITY
SYSTEMATIC REVIEW**



**CAN READ ONE PAPER INSTEAD
OF FIFTEEN.**

Characteristics of Evidence-Based Reviews

THREE distinguishing characteristics from other types of reviews (e.g., meta-analyses):

1. Classify the evidence base of an instructional practice
 - e.g., EBP, potential EBP, Ineffective practice
2. ONLY experimental studies with appropriate methodological quality are used to classify
 - Quality indicators used to determine methodological rigor
3. Used a set of predetermined set of standards for determining sufficient level of quality and quantity
 - e.g., Council for Exceptional Children, What Works Clearinghouse

(Cook et al, 2019)

Steps of an EBP review

Step 1: Identify a practice and set scope of review

Step 2: Identify standards and set inclusion/exclusion criteria

Step 3: Locate all relevant studies that employ a design from which causality can be inferred

Step 4: Use a set of EBP standards (e.g., CEC 2014) to
Identify methodologically sound studies

5. Determine whether there is enough evidence (i.e.,
methodologically sound studies) to classify an EBP

Step 1: Identify a Practice/Program and Scope of review

- Scope of the review:

- Define the practice
- Define WHO
- Define WHAT OUTCOMES
- Define Context/Setting

Discuss:

- Why is it important for review teams to clearly define the scope of the review?
 - Who
 - Outcomes

Step 2: Identify standards and finalize inclusion/exclusion criteria

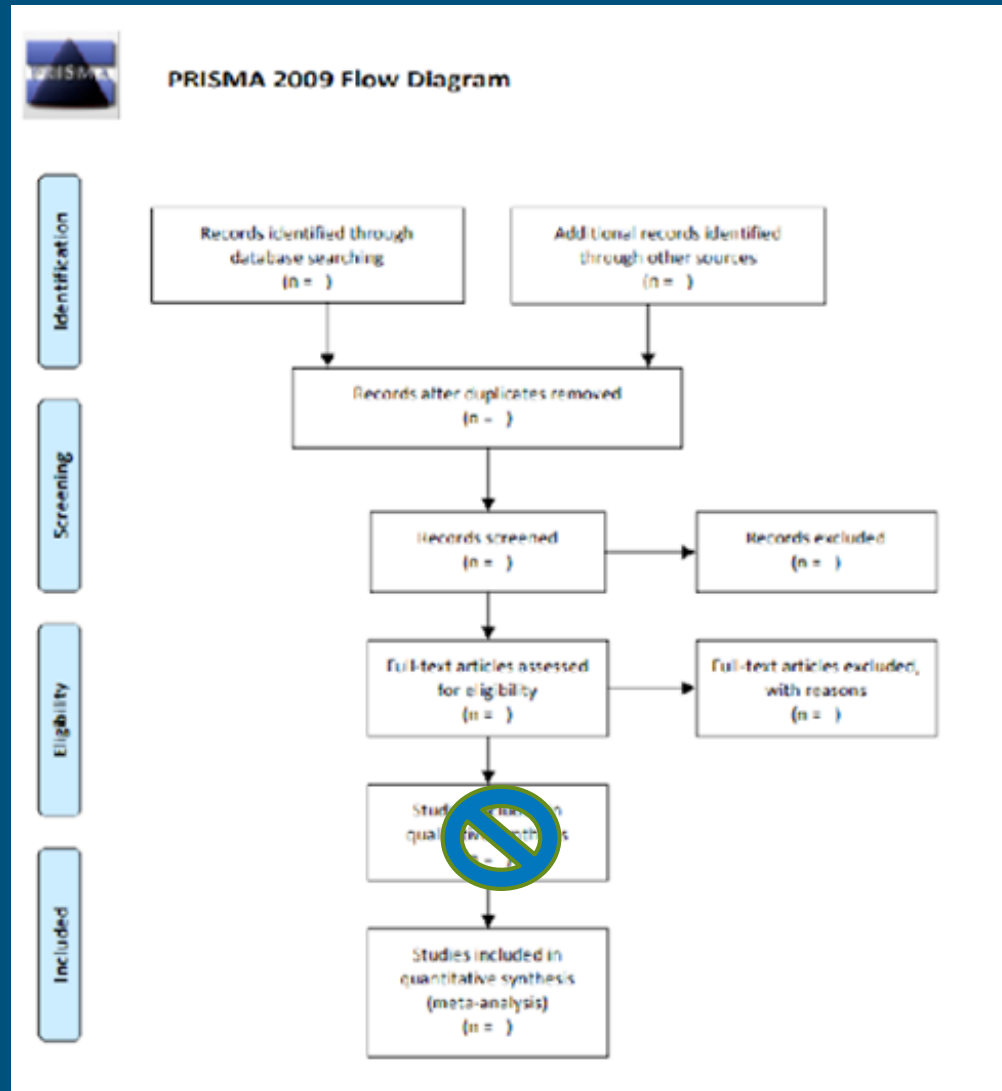
Standard	Classifications	Important Notes
WWC (2013)	Positive effects Potentially positive effects Mixed effects No discernable effects Potentially negative effects Negative effects	<ul style="list-style-type: none"> Institute of Educational Science Original publication 2003 Originally included only experimental/quasi-experimental designs Reviews educational programs
Gersten et al. (2005)	Evidence-based Promising Not evidence-based	<ul style="list-style-type: none"> Standards designed to review special education research Group designs only
Horner et al. (2005)	Evidence-based Not evidence-based	<ul style="list-style-type: none"> Standards designed to review special education research Single-case design only
Council for Exceptional Children (2014)	Evidence-based practice Potentially-evidenced based practice Mixed evidence Insufficient evidence Negative effects	<ul style="list-style-type: none"> Adapted from Gersten et al. (2005) and Horner et al. (2005) Adopted by CEC Combined set of quality indicators for BOTH group and SCD
Kratochwill (2010, 2013)	Positive effects Potentially positive effects Mixed effects No discernable effects Potentially negative effects Negative effects	<ul style="list-style-type: none"> WWC standards for SCD
National Autism Center	Established Emerging Unestablished Ineffective/Harmful	
Reichow et al. (2008)	Established EBP Promising EBP Not an EBP	
Best Evidence Encyclopedia (n.d.)	Strong Evidence of Effectiveness Moderate Evidence of Effectiveness Limited Evidence of Effectiveness: strong Evidence of Modest Effects Limited Evidence of Effectiveness: Weak Evidence with notable effects No qualifying Studies	

Step 2: Identify standards and finalize inclusion/exclusion criteria

- Set inclusion/exclusion criteria for studies included
 - Based on Scope
 - Participants
 - Outcomes
 - Context/setting
 - Types of publications:
 - Peer reviewed?
 - Dissertations?
 - Types of design
 - Group?
 - SCD?
- Discussion
 - Why are only studies with certain designs included in EBP reviews?

Step 3: Locate all relevant studies

- Electronic Database Search
- Hand Search



Step 4a: Identify methodologically sound studies

Process

- “Quality Indicators” assist review teams with identifying the high quality studies
- Each study identified in the search is coded to determine whether it meets methodological rigor
- ONLY studies that meet the specific criteria are used to make EBP classification
 - Different standards (e.g., CEC. 2014; National Autism Center) have different levels of QIs

Examples of Quality Indicators

- Studies provide:
 - sufficient information regarding context and setting of study, participants, interventionist
 - Evidence of implementation fidelity
 - Internal validity
 - Controls and systematically manipulates IV
 - Control/comparison
 - Outcome measures are appropriate
 - Appropriate data analysis

Step 5: Determine the evidence

- Using the **METHODOLOGICALLY** sound studies:
 - Classify the effects of each study
 - e.g., positive, mixed/neutral, negative
 - Make an evidence-based classification
- Examples
 - CEC (2014): EBP, promising practice, mixed evidence, insufficient evidence, negative effects
 - WWC (2013): positive effects, potentially positive effects, mixed effects, no discernable effects, potentially negative effects, negative effects

Activity: Analyzing an EBP Review

- Review the process and reporting
- Understand the classification of a specific practice/program
 - including scope of the review
- Practice how to articulate findings
 - if it is not an EBP, we need to understand the evidence more broadly
- Materials:
 - Cook, S.C., Cook, B.G., . & Cook, L. (2017). Classifying the evidence base of classwide peer tutoring for students with high-incidence disabilities. *Exceptionality*, 9-25. doi: 10.1080/09362835.2016.1196448
 - Organizer with guiding questions

Reasons for a Practice NOT being Classified as an EBP

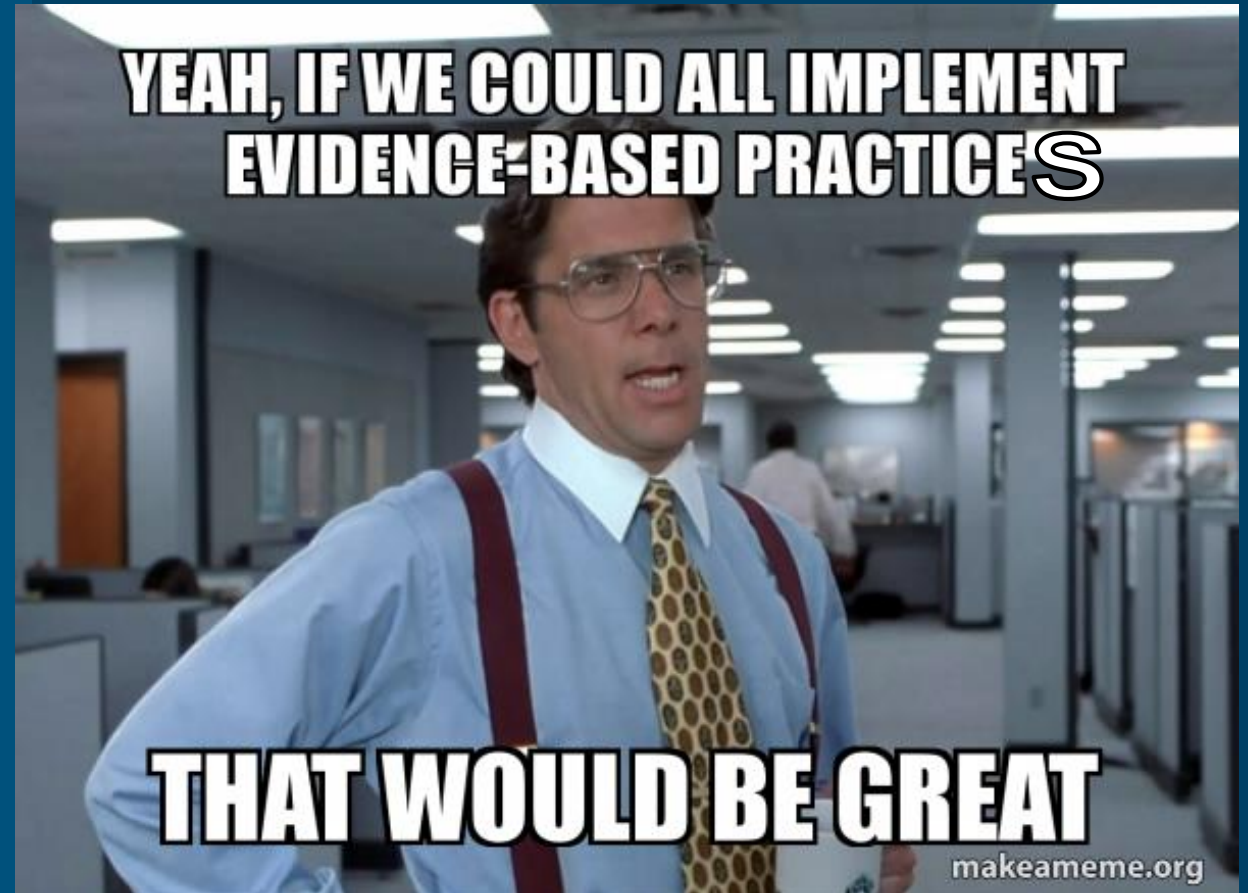
- Has not been subject of an evidence-based review
- Has been subject of an evidence-based review:
 - but did not meet standards of quality
 - evidence suggest the practice is not effective for target population

Discuss:

- *For each case:*
 - *What does this tell us about the “effectiveness” of a practice*

Disseminating EBPs

Considerations for bridging the
research-to-practice Gap



Steps for Implementation

Learning Supports

A Special Educator's Guide to Successfully Implementing Evidence-Based Practices

Casefile Terms
Cynthia A. Exley
Bryan G. Cook

A finding of severity reached over 100 Thompson as the prepared for the grade class for reading. Many of the students at her school had reading, but most of the students in her own class are also do not. The class are composed mostly of students with learning disabilities, English language learners, and students at risk. All of her usual strategies had been unsuccessful and she was frustrated. How do you still understand the life. Therefore, do you wish you had a guide to implementing evidence-based practices? If so, read on...

Evidence-based practices (EBPs) are those for which high-quality research has consistently shown to be effective in increasing student achievement. An EBP is not a one-size-fits-all solution (Gallagher, 2006), but when chosen wisely and implemented appropriately it can be used as a guide to the practices most likely to work for students with disabilities (Cook, Tomlinson, Cook, & Landrum, 2008). Using an EBP can help eliminate many of the uncertainties and guesswork that teachers...

...by providing specific approaches for improving student performance. The following is intended to serve as a step-by-step guide for special educators to understand, locate, select, and successfully implement an EBP.

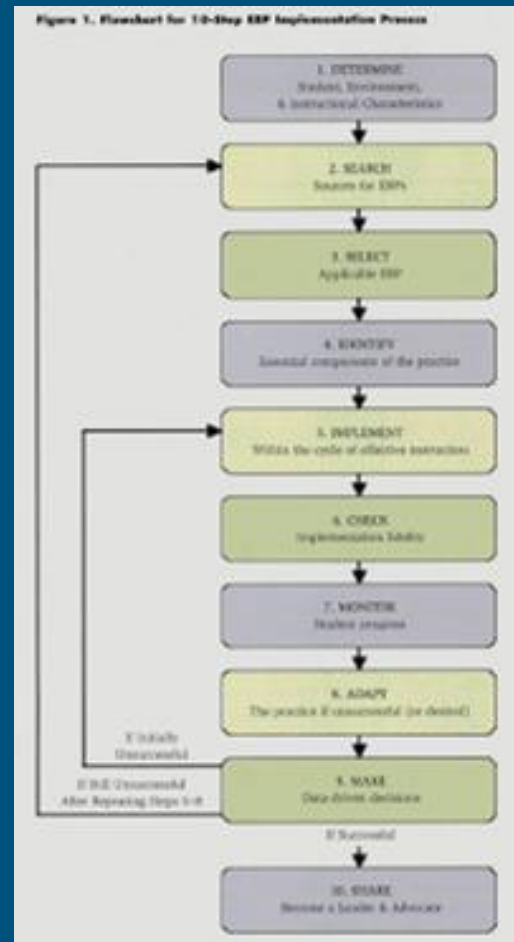
Evidence-Based Practices and the Importance of Implementation

EBPs are instructional approaches that have proven to be effective through rigorous research (see box, "What Makes a Practice Evidence Based?"). When implemented with fidelity, as designed, EBPs in special education have been shown to successfully improve the performance of students with disabilities (Cook, Tomlinson, & Hejlskov Smith, 2008). For this reason, it is important that educators seek out EBPs and incorporate them into their daily instruction to help all students achieve their full potential. To be successful in EBP, the program or practice must be shown to be effective by multiple research studies that meet strict criteria related to research design, quality, and effect on student outcomes (e.g., Gerson et al., 2005; Horner et al., 2005). Although not guaranteed to work for everyone, EBPs have been shown to be effective for the majority of students. Despite the considerable potential of EBPs to improve student outcomes and ease teachers' burden for finding the most effective instructional practices, educators must be aware of how to locate and effectively apply them.

To help teachers effectively apply EBPs, we provide a list of prominent sources of EBPs for students with disabilities in Table 1 and a 10-step implementation framework for choosing and implementing an EBP (see Figure 1 and 2).

A 10-Step Implementation Process for EBPs

Using an EBP does not lessen the important role of an effective teacher. However, since practices are consistently more effective than others (Fennell, Kavelski, Blum, & Linn, 1997), and EBPs are more powerful, EBPs grew out of the medical field, which



1. Determine Characteristics
2. SEARCH for EBPs
3. SELECT EBP
4. IDENTIFY essential components
5. IMPLEMENT
6. CHECK implementation fidelity
7. MONITOR student progress
8. ADAPT (if necessary)
9. MAKE data driven decisions
10. SHARE



Supporting Dissemination

How can we support practitioners in:

1. Using Reliable Resources?
2. Selecting an Appropriate EBP from a reliable source?
3. Implementing the practice with fidelity?

Reliable Resources

Sources for EBPs:

- Organizations that publish their own EBP reviews online
 - e.g., WWC
- Organizations/sites that link to EBPs
 - e.g., IRIS Evidence-based practice summaries
- Peer reviewed journals
 - independent EBP reviews

Other online reliable resources

- Provides practitioners with information regarding effective practices, but may not provide information to whether the practices have undergone **FORMAL** evidence-based reviews
 - varied “levels” of evidence
 - May be EBPs, may be “promising” or “potential” EBPs

Online Reliable Resources

Sources for published EBP reviews:

- IRIS Evidence-based Practice Summaries
 - https://iris.peabody.vanderbilt.edu/resources/ebp_summaries/#content
- What Works Clearinghouse:
 - <http://ies.ed.gov/ncee/wwc/>
- National Professional Development Center on Autism Spectrum Disorder
 - <http://autismpdc.fpg.unc.edu/evidence-based-practices>
- Evidence-based Instructional Practices for Young Children with Autism and Other Disabilities
 - <https://ebip.vkcsites.org/>

Other Reliable Resources

- Center for Early Literacy Learning (CELL)
 - Research syntheses (no quality review or classification)
 - <http://www.earlyliteracylearning.org/index.php>
- Early Childhood Technical Assistance Center
 - Links to both EBP review sources and other reliable sources
 - <https://ectacenter.org/topics/evbased/evbased.asp>
- The University of Kansas Life Plan Institute
 - <http://kskits.dept.ku.edu/ta/virtualKits/BecomingAnEvidence.shtml>

Using Resources to Select an EBP

Considerations	Challenges	Support Considerations
<ul style="list-style-type: none">● Alignment is critical<ul style="list-style-type: none">○ The closer the “match” the more likely it will lead to improved outcomes<ul style="list-style-type: none">■ student needs■ environmental■ Family input○ Professional judgment to determine which is more likely to improve outcome(s)● Always consider the best available evidence	<ul style="list-style-type: none">● Information difficult to locate and interpret<ul style="list-style-type: none">○ e.g., Information published in peer reviewed journals○ Background in EBPs/Research Design, Reporting● Inventory is constantly changing● Organizations and sites have their own rating system (if applicable)<ul style="list-style-type: none">○ Familiarity with ratings allows a more informed decision○ Not all EBPs are determined equally	<p>Pre-service and in-service teachers may benefit from</p> <ul style="list-style-type: none">● Professional development and coaching in<ul style="list-style-type: none">○ Using reliable resources<ul style="list-style-type: none">■ identifying a practice that aligns■ locating resources for additional information● Support in selecting practices using the best available evidence<ul style="list-style-type: none">○ Providing options of EBPs to address target outcome

Implementation

Considerations	Challenges	Support Considerations
<ul style="list-style-type: none">● In order to be confident that an EBP will work:<ul style="list-style-type: none">○ Practitioners understand the critical components○ Implement with fidelity<ul style="list-style-type: none">■ Balance with individualization, Professional judgment	<ul style="list-style-type: none">● Information on implementation can be difficult to locate and interpret<ul style="list-style-type: none">○ Examination of multiple sources before understanding steps of implementation	<ul style="list-style-type: none">● Identify active ingredients● Providing information on resources that are “practitioner” friendly<ul style="list-style-type: none">○ IRIS modules○ https://ebip.vkcsites.org/● Effective professional development/coaching<ul style="list-style-type: none">○ modeling/demonstrating○ practice○ feedback

Questions?

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