Translating Practice-Based Research Syntheses into Consumer-Friendly Evidence-Based Practices

Carol M. Trivette, Ph.D.
Orelena Hawks Puckett Institute
Morganton and Asheville, North Carolina

Purposes of the Presentation

• Describe an approach to conducting research syntheses that focuses specifically on the implications of research evidence for improving intervention and prevention practices.

• Share lessons learned from conducting practice-based research syntheses and using the results for informing practice.

• Illustrate how research findings are used to develop different kinds of consumer-friendly evidence-based practices.

• Describe briefly an effective adult learning model to enhance implementation of evidence-based practices.
Development of the Research-to-Practice Procedures

The procedures for culling research findings were initially developed at the Research and Training Center on Early Childhood Development (www.researchtopractice.info) and subsequently at the Tracking, Referral, and Assessment Center for Excellence (www.tracecenter.info).

The procedures are now being used in the Center for Early Literacy Learning (www.earlyliteracylearning.org) for identifying evidence-based early literacy learning practices.

All three Centers were/are funded by the U.S. Department of Education, Office of Special Education Programs.
Types of Research Syntheses

- Efficacy Syntheses
- Efficiency Syntheses
- Translational Syntheses
Purpose of Translational Syntheses

Ascertain the size of effect for the characteristics and features of an intervention (treatments, practices, etc.) that are associated with study outcomes.

Translational syntheses focus on *unpacking* and *unbundling* an intervention to isolate those practice characteristics that “matter most” in terms of explaining the results found in different studies of the same or similar interventions.
In practice-based research syntheses, researchers code and analyze small bodies of research that have investigated the same or similar practice characteristics and the same or similar outcomes with a focus on isolation of those practice characteristics that matter most in terms of the strength of the relationship between characteristics and consequences.
Evidence-based practices are defined as practices informed by research findings demonstrating a (statistical or functional) relationship between the characteristics and consequences of a planned or naturally occurring experience or opportunity where the nature of the relationship directly informs what a parent or practitioner can do to produce a desired outcome.
Linking Research to Practice

Practice-Based Research Syntheses → Isolating the Practice Characteristics That Matter Most → Evidence-Based Practices
Disentangling and Unpacking What Matters Most

- Any practice, intervention, or experience afforded a child or adult is “made up” of different features or elements that can either have development-enhancing or development-impeding characteristics and consequences.

- “Sorting out” which development-enhancing elements and features are most important is the main goal of a practice-based research synthesis so that one can make informed decisions about what evidence-based practices should look like.
Key Features of a Practice-Based Research Synthesis

• Selection of practice or intervention
• Literature search of relevant studies
• Selection of studies for inclusion
• Coding the selected studies
• Analysis and re-analysis (e.g., meta-analysis) of appropriate study findings
Formal research reports are prepared that describe the processes and findings from a research synthesis. These reports include technical descriptions of what was done and what was learned (synthesis findings).
Bridges research syntheses involve systematic analysis and integration of small bodies of research that have investigated the same or similar practices leading to or producing the same or similar outcomes.
Isolating What Matters Most for Explaining the Relationship Between a Practice and its Consequences
The process of isolating what matters most in terms of the relationship between a practice and its outcomes is a bit like detective work. You have to identify from all possible options the factors that best explain the relationship between a practice and its consequences. This is accomplished in multiple ways using different approaches to data coding and analysis.
Lessons Learned from Conducting Practice-Based Research Syntheses

- There generally is no direct correspondence between the findings from a research study and the implications for practice.
- Experimental conditions rarely exist in the day-to-day contexts of intervention and practice.
- Mirroring research evidence is how research is used to inform practice.
- No matter how evidence-based a practice is, it will not likely be used if it lacks social validity.
Developing User-Friendly Evidence-Based Practices
Using What Matters Most To Develop Evidence-Based Practices

Findings from a research synthesis are used to isolate the practice characteristics that are used to develop different kinds of evidence-based practice guides.

Informed decisions are made about what practice characteristics have the highest probability of producing desired effects.

These practices characteristics are then packaged in to consumer-friendly products.
Packaging Synthesis Findings for Non-Researchers

Several formats that are used to help convey findings from research syntheses include the following:

- Non-technical research summaries
- Practice guides or “idea pages”
- Brochures
- Videos
- Podcasts
- Posters
A Research Summary is a brief (1-2 page), user-friendly nontechnical restatement of the findings from the research synthesis. The intention is to answer the question “What is the bottom line?” of the research evidence for non-researchers (policy makers, administrators, trainers, practitioners and parents).
RTC Synthesis Summaries

- **Bottomlines** are one-to-two-page summaries of *Bridges* research reports written in jargon-free language for parents and practitioners.

- The purpose of these reports is to answer the question, “Is the practice supported by research?” based on the evidence synthesized in a RTC *Bridges* report.
Evidence-Based Practice Guides

What is the practice?
What does it look like?
How do you do it?
How do you know it worked?

Three vignettes illustrating the practice
Example of CELLpractices for toddlers, 2 versions

Parents

Letters and Symbols Are Everywhere

What is the practice?
As you move around your community together, you will find opportunities to help your child understand signs. For example, you can learn that a red sign with the word STOP means that a car or bus must stop.

What does the practice look like?
Signs (stop signs, and symbols found on logos) can help your toddler learn that symbols and words have meanings. She will benefit by seeing the connections between symbols and letters and the things they represent.

How do you do the practice?
Discover ways to help your toddler see these connections as you go out in your community together.
- Begin by noticing the words or signs that catch your toddler’s attention. Perhaps she will notice the blinking Open sign in a shop window or the red stoplight hanging over the street.
- Follow your child’s lead and comment on what she notices. “See you looking at that blinking sign in the window.”
- Explain what the sign means. “That sign says Open and it means we can go in the store and buy something.”
- Go to the door and show her that it is open and you can go inside.
- The next time you see an Open sign on a door, point it out to your toddler and remind her what it means.
- When you see a sign or symbol that you think your toddler will like, point it out, explain what it means (on ice cream cones, a steaming coffee cup, a lighted CELL sign, etc.)

Practitioners

Letters and Symbols Are Everywhere

What is the practice?
A look around the home and neighborhood will present many opportunities for a toddler to begin to understand that d=signs and symbols have meanings. She will benefit by seeing the connections between symbols and letters and the things they represent.

What does the practice look like?
Looking at a magazine with a toddler to help her find signs (such as traffic signs and symbols such as a favorite fast-food restaurant logo) that he recognizes helps her learn that signs and symbols have meaning.

What does the practice feel like?
There are many opportunities to help your toddler make this connection as you move about your community with him.
- Begin by noticing the words or signs that catch the toddler’s attention. Perhaps she will notice the blinking Open sign in the shop window or the red stoplight in the street.
- Follow the child’s lead by acknowledging what the child is noticing. “I see you looking at that blinking sign in the window.”
- Explain what the sign means. “That sign says Open and it means we can go in the store and buy something.”
- Go to the door and show her that it is open and you can go inside.
- The next time you see an open sign on a door, whether it is a store, point it out and remind her what it means.
- When a sign or symbol catches the toddler’s eye, point to it and explain what it means.
A practice brochure is a colorful, tri-fold document that visually displays the practice and provides the following written information:

- What is the practice?
- How do you do it?
- What does it look like?
- How do you know it is working?
Example of RTC *Cornerpiece* brochure

Research findings show that shared book reading can help young children learn to talk more, using an increased number of words. This practice can also help young children become ready for school.

Evidence-Based Practice Guides

Additional practice guides are available from the RTC for this and other important early childhood topics. Related materials also are available as part of Solutions evidence-based tool kits.

Please see descriptions of these resources and information for ordering under “Products” at www.researchtopractice.info

Cornerpiece

Shared Reading

Building a child’s expressive language through reading and talking about stories

An exciting, reading-based boost for early language development

An Evidence-Based Early Childhood Intervention Practice
Shared Reading
strengthens children’s early language development

What is the practice?

Shared reading is reading with young children, two to three years of age, for 5 to 15 minutes at least three times a week, following specific strategies designed to encourage conversation. These easy-to-follow strategies offer a step-by-step way to build children’s expressive language.

When practiced consistently, shared reading can help young children become better prepared for school.

How do we do it?

Promote a 2- or 3-year-old’s language development during one-to-one shared reading times (or with a small group of no more than three or four children) by:

1. Asking the child “what” questions ("What is the little girl looking at?") and repeating what the child says ("Great! She is looking at the balloon flying away!"). Offer help when needed ("Do you think she is looking at the balloon flying away?") and follow the child’s answers with additional, related questions ("Like, she is looking at the balloon flying away. What color is the balloon?").

2. Following the child’s interests. Every child will show special interest in different forms of reading materials (pages with colorful pictures, letters of the alphabet, numbers, photos of favorite animals and activities, or perhaps maps of water and land). A valuable shared reading experience can be focused on sections or pages that spark conversation with a child ("What animals do you see on this page?").

3. Allowing the child enough time to respond to your questions (a good rule of thumb is to count to 10 before offering help).

As young children begin to talk more and more about a story, help the child become even more expressive by:

- Asking open-ended questions ("Why is the puppy happy?") and
- Expanding what the child says ("Good! The puppy is happy because she is going for a walk. What is the puppy looking for?").

Remember to praise and encourage the child as often as possible for offering answers and participating in the conversation ("Wow! What a wonderful answer!").

And remember... have fun in ways that will encourage young children to want to read more... and more... and more!

Take a look!

Shared reading can be done before naptime, at bedtime, while waiting for a doctor’s appointment, or for your food to arrive at a restaurant! There are many opportunities to sit down with your child every day to “read” a book, magazine, piece of mail, menu, and so much more!

Enlist the support of all the important adults in your child’s life. Grandmas, grandpas, caregivers, and other adult friends can make terrific shared reading partners! Invite them to watch while you demonstrate the shared reading techniques in “How do we do it?”

Is it working?

Has the amount of time the child spends talking with others increased?

Has the child’s vocabulary become larger and more varied?

Has the child become the storyteller during shared reading times?

Has the child shown increased interest in reading?
• **Interests Lead to Learning**
  Child interests are the foundation of the CELL approach to early literacy learning. This video explores the two types of child interests and how to identify them.

• **Weaving Wonderful Tales**
  Describes shared reading, an interactive style of adult-child reading for 2-3 year olds.
Multi-format recordings of **CELLpractices** in three versions:

- iPod™ netcasts
- Online Flash™ animations
- Audio-only netcasts

---

**Homespun Fun CELLcast**
**Cellpops**

Interactive website pages featuring

- Idea “pop-ups” to make literacy learning part of families’ everyday activities
- A comment box for site users’ idea exchange

**Cellposters**

Downloadable PDF posters for parents
**Key Characteristics of Products**

- Target audience
- Appropriate language for audience
- A simple, straightforward message of 3-5 steps
- Multiple formats for the same message
- Dissemination ≠ Implementation
Two Types of Evidence-Based Practices

- Evidence-Based Implementation Practices
  - Adult Learning Methods
- Evidence-Based Intervention Practices
  - Client-Centered Practices
  - Literacy-Rich Environments and Pre-Literacy Development
  - Characteristics of Early Shared Reading and Early Language Development
Relationship Between Implementation and Intervention Practices

Implementation Practices

Adult Learning

Intervention Practices

Client-Centered Practices
Research synthesis of 79 studies of accelerated learning, coaching, guided design, and just-in-time-training

58 randomized control design studies and 21 comparison group studies

3,152 experimental group participants and 2,988 control or comparison group participants

Combination of studies in college and non-college settings

Learner outcomes included learner knowledge, skills, attitudes, and self-efficacy beliefs

Weighted average Cohen’s $d$ effect sizes for the post test differences between the intervention and nonintervention or comparison groups were used for assessing the impact of the adult learning methods.

---

How Is the Intervention Being Delivered?

Introduce information about the model or model practice

Illustrate the model practice by description, demonstration, example, etc.

Involve the learner in actively trying out (practicing) or doing practice

Examine (evaluate) the use and outcomes of the practice

Determine what the learner understood/could do (mastery)

Determine additional opportunities to promote learning (What’s next?)
Conclusions

- Findings from practice-based research syntheses can yield useful information for informing practice.
- Those characteristics of practices that matter most can directly inform how evidence-based practices can be designed and delivered.
- The development of products that reflect evidenced based practices must be developed with the target audience in mind.
- Practice-based research syntheses + Evidence-based products + Dissemination ≠ Implementation.
For More Information

To learn more about the research and practice being conducted at the Orelena Hawks Puckett Institute, please visit http://www.puckett.org.
Purpose of Efficacy Syntheses

Ascertained the size of effect for an intervention (treatment, practice, etc.) designed to have the same or similar outcomes.

Efficacy syntheses combine findings from different studies using randomized controlled trials or similar types of research designs.
Purpose of Efficiency Syntheses

Ascertain the size of effect for the difference between two or more contrasting interventions (treatments, practices, etc.) designed to have the same or similar outcomes.

Efficiency syntheses focus on which types of interventions under which conditions are associated with the largest effect size on outcomes of interest.