

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

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Purposes of the Presentation

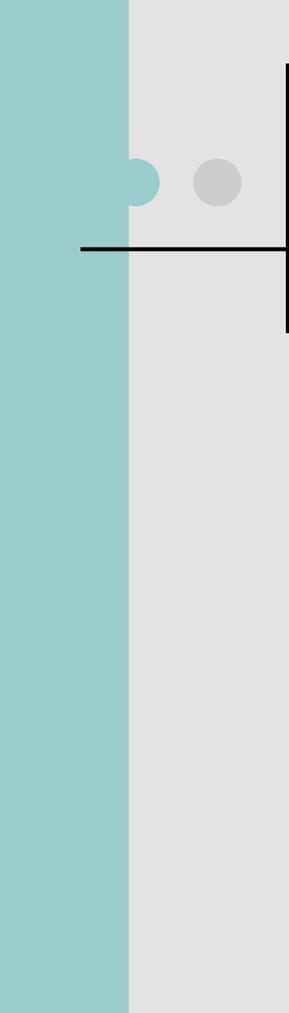
- Describe an approach to conducting research syntheses that focuses specifically on the implications of research evidence for improving intervention and prevention practices.
- Share lessons learned from conducting practice-based research syntheses and using the results for informing practice.
- Illustrate 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.



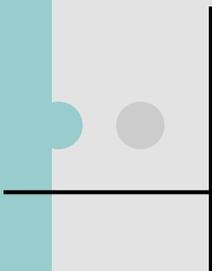
Types of Research Syntheses

- 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.



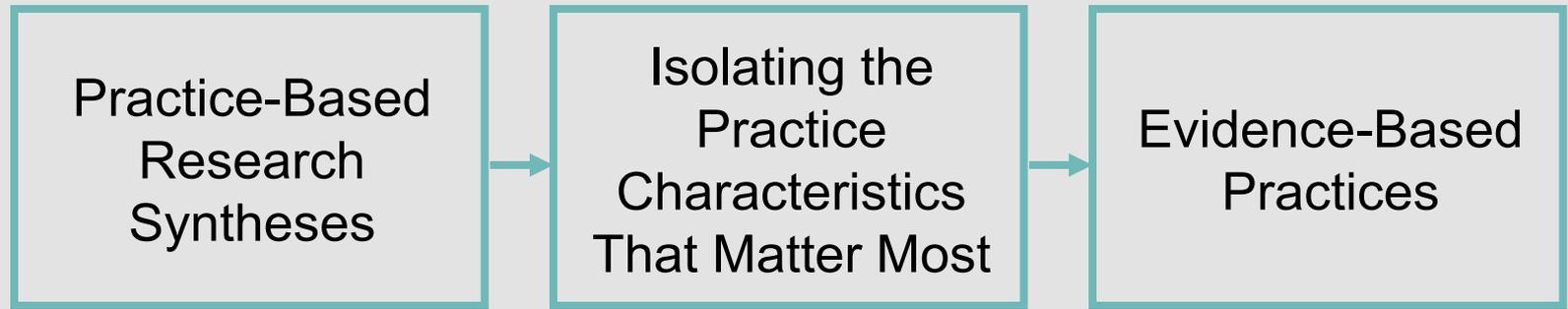
Practice-Based Research Syntheses

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.

Definition of Evidence-Based Practices

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



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

Practice-Based Research Synthesis Reports

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).

Practice-Based Research Syntheses

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.

Bridges Practice-Based Research Syntheses Research and Training Center on Early Childhood Development

Volume 1, Number 1

June 2003

Social-Emotional Consequences of Response-Contingent Learning Opportunities

Carl J. Dunst

The relationship between children's response-contingent learning opportunities and social-emotional responding was examined in 29 studies of infants without developmental delays and 13 studies of infants and older children with or at risk for developmental delays or identified disabilities. The studies of the typically developing children included 862 infants, and the studies of children with or at risk for developmental delays included 155 participants. Findings indicate that response-contingent learning opportunities, where the relationship between a child's behavior and the consequences of this behavior is clearly detectable, produce the greatest amount of positive social responding and attenuate negative social responding. A return-to-baseline condition or a violation of a response-contingent expectancy was almost always associated with heightened negative social responding. Implications for practice are described in terms of the environmental arrangements most likely to optimize the positive social-emotional consequences of response-contingent learning opportunities.

Purpose

The purpose of this practice-based research synthesis is twofold: (1) to ascertain claims about the social-emotional concomitants of response-contingent learning among young children and (2) to determine if different kinds of response-contingent learning opportunities produce like or unlike effects in terms of the social-emotional consequences of learning a contingency between a behavior and its environmental effects. Concomitant behavior refers to behavior manifested concurrently with the occurrence of operant responding and is not the target of conditioning.

The conduct of the synthesis is guided by a framework that focuses on the degree to which variations in response-contingent learning are associated with variations in the social-emotional responding of infants and young children (Dunst, Trivette, & Cutspec, 2002). A practice-based research synthesis differs from more traditional meta-analyses by systematically examining and unpacking the characteristics of practices that are related to differences in their outcomes or consequences. This type of analysis focuses more on an understanding of the conditions under which a practice exerts an observable effect and not solely on a statistical relationship among variables. The reader is referred to Tarabulsy, Tessier, and Kappas (1996) for a theory-based review of contingency detection studies and the influence of contingency awareness on social-emotional development in infancy.

Background

The terms infant operant learning, response-contingent learning, contingency learning, instrumental learning, and operant conditioning among others have been used to describe arrangements where a child's production of a behavior that initiates or elicits a reinforcing or interesting environmental consequence increases the child's rate, frequency, or strength of responding. Watson (1972; Watson & Ramey, 1972) noted that response-contingent learning opportunities provide infants a context for learning that the production of an interesting stimulus (i.e., reinforcement) is contingent upon a response emitted by a child. Young children's emerging understanding of the relationship between their behavior and its consequences is called "contingency awareness" (Watson, 1966) or "contingency detection" (Rochat, 2001). The kinds of behaviors young children have been conditioned or "taught" to use to produce reinforcing effects include leg kicks, smiles,

Bridges is a publication of the Research and Training Center on Early Childhood Development, funded by the U. S. Department of Education, Office of Special Education Programs, Research to Practice Division (H324010005). The RTC is an organizational unit of the Center for Evidence-Based Practices, Orelena Hawks Puckett Institute (www.puckett.org).



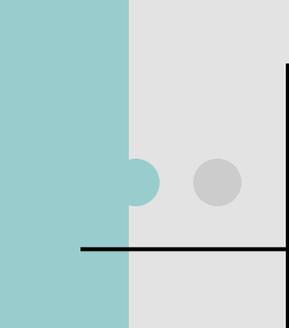
**Isolating What Matters Most
for Explaining the Relationship
Between a Practice
and its Consequences**

Process of Isolating What Matters Most

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.

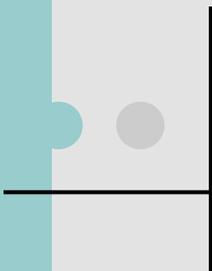
Informed decisions are made about what practice characteristics have the highest probability of producing desired effects.

These practice 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



Research Summaries

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.

Bottomlines Research & Training Center on Early Childhood Development
Research findings informing early childhood practices

Volume 7 Number 1 June 2011

Topic:
Why young children have positive social and emotional responses when they learn to do something that produces expected results.

YES! I made it happen!

Picture a rainbow-colored mobile made with several dangling, bell-trimmed toys. Mom puts her baby into an infant seat placed within reach of the eye-catching toys. Baby contemplates the bright display. Before long, perhaps by happenstance, her hand strikes the mobile and she's rewarded with colorful movement and the pleasant, tinkling sound of bells. As baby learns that her action causes these pleasing sights and sounds, she also learns to repeat the action. Every time she touches the mobile, she initiates its rattle, and she comes to expect this delightful reward.

An examination of research on learning opportunities that share these characteristics—learning opportunities tied to expected rewards—shows that they produce positive social and emotional responses in young children. That is to say, children react to such “response-contingent” learning opportunities with behaviors like smiling, cooing, attentiveness, and laughter—responses that clearly indicate enjoyment and mastery of this type of learning situation.

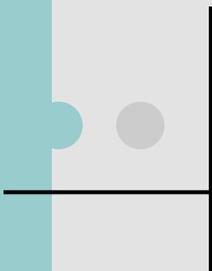
The available research also shows that when the expected reward fails to follow the child's action, or when the reward occurs in a haphazard way, the child is more likely to respond negatively, with

Research tells us:

- Young children express happiness when their actions bring about interesting and expected responses.
- When the relationship between something a young child has learned to do and the rewarding response that follows it is very clear and can be counted on, positive social-emotional responses occur with greater frequency.

Babies eagerly move hands amid hanging toys, pat an inflated ball, and touch wind chimes, both expecting and smiling happily at the rewards of movement and/or sound caused by their actions.

Acting on the evidence:
Help young children learn about their capabilities by responding consistently to their efforts to get your attention and by arranging toys and materials so that they produce interesting effects when a child interacts with them.



Evidence-Based Practice Guides

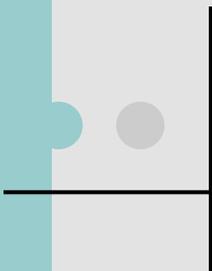
What is the practice?

What does it look like?

How do you do it?

How do you know it worked?

Three vignettes illustrating the practice



Brochure Content

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.

The early childhood practice described in this brochure is based on findings presented in a practice-based research synthesis conducted at the Research and Training Center on Early Childhood Development by P. A. Cutler (2009). Influence of dialogic reading on the language development of toddlers. *Budget, 2(1)*. Visit www.researchtopractice.info to read or download the complete research synthesis and/or a user-friendly, illustrated summary, *Budgetlines 2(1)*. Printed copies are available from Whiteberry Press (www.wbpress.com). All opinions expressed are those of the Research and Training Center on Early Childhood Development and do not necessarily reflect the views of the U. S. Department of Education, Office of Special Education Programs, Research to Practice Division, funder of the work of the RTC (H324E010008).



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

Research and Training Center on Early Childhood Development
Center for Evidence-Based Practices
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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** ("Yes, 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 or 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?" or "What is the little boy doing that you like to do too?").
- 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 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.

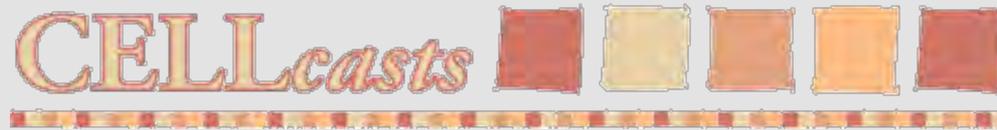


- ***Weaving Wonderful Tales***

Describes shared reading, an interactive style of adult-child reading for 2-3 year olds.



CELLcasts



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

Cellpops

Let your preschooler’s everyday activities

POP

with literacy-learning POWER!

Meals and Snacks

Ask your child to name and describe what he is eating. Is it sweet, salty, or spicy? Is it hot, warm, cool, or cold? Smooth or crunchy?

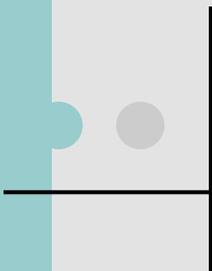
You name the foods you’re eating, describing their colors, tastes, and shapes.

Talk about how food is grown and where it comes from.

Ask open-ended questions, about your child’s day, such as “What were you building in the sandbox?”

Together make a list of your child’s favorite foods.

Everyday literacy learning opportunities from  the Center for Early Literacy Learning (www.earlyliteracylearning.org)
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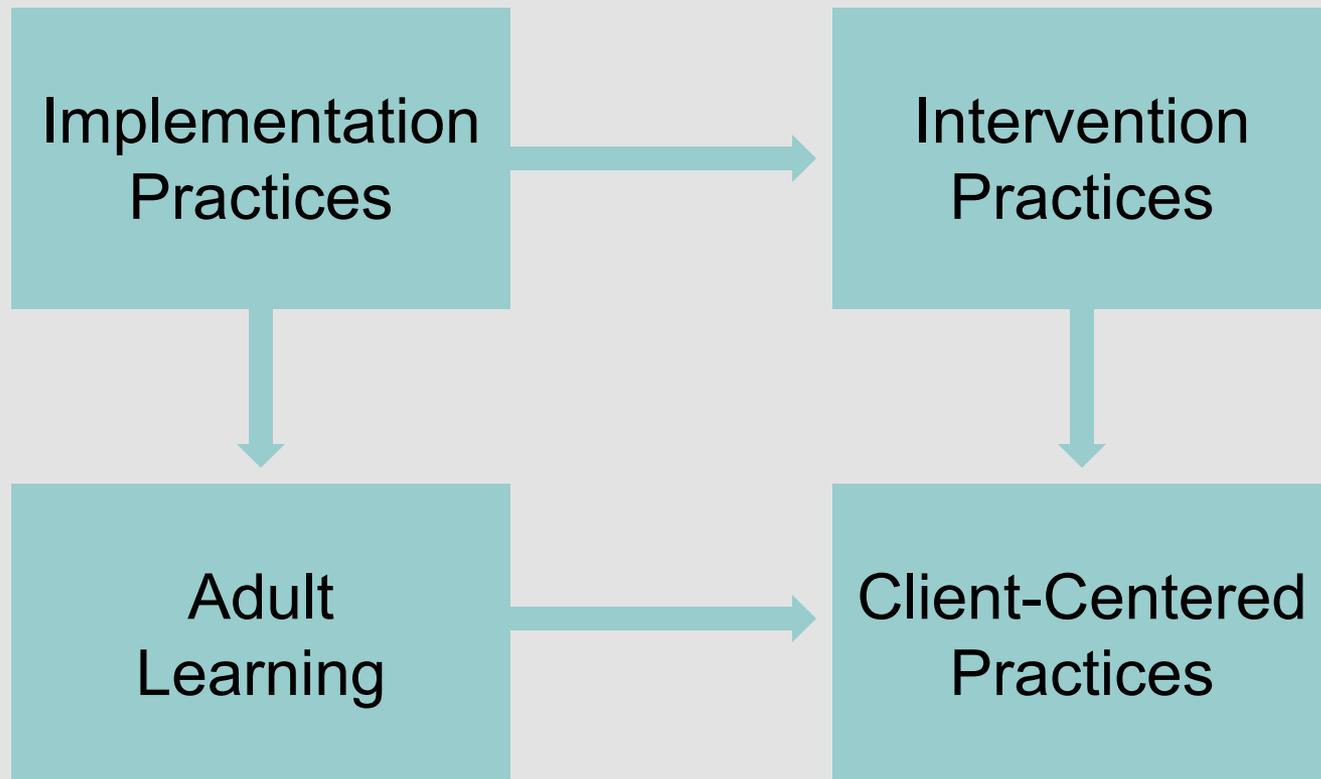
Key Characteristics of Products

- 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

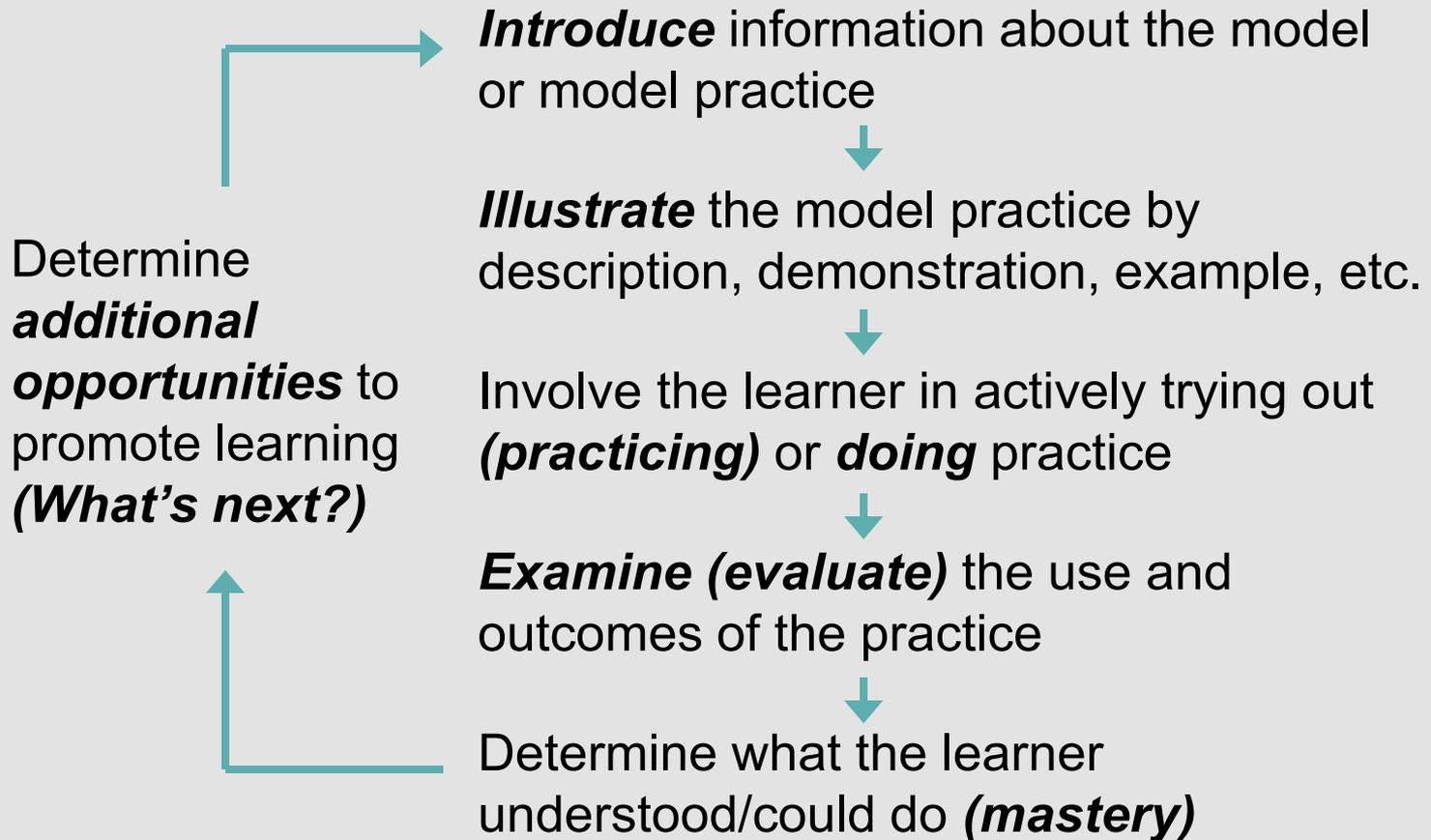


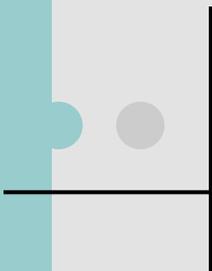
Adult Learning Research Syntheses^a

- 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.

^a Trivette, C.M. et al. (2009). Characteristics and consequences of adult learning methods and strategies. *Winterberry Research Syntheses*, Vol. 2, Number 1.

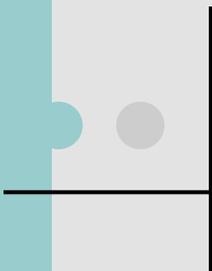
How Is the Intervention Being Delivered?





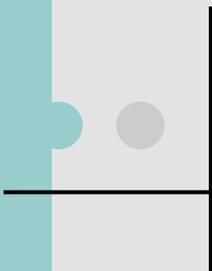
Conclusions

- 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 \neq Implementation.



For More Information

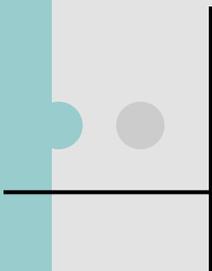
To learn more about the research and practice
being conducted at the
Orelena Hawks Puckett Institute,
please visit <http://www.puckett.org>.



Purpose of Efficacy Syntheses

Ascertain 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.