

An Evidence-Based Approach to Professional Development

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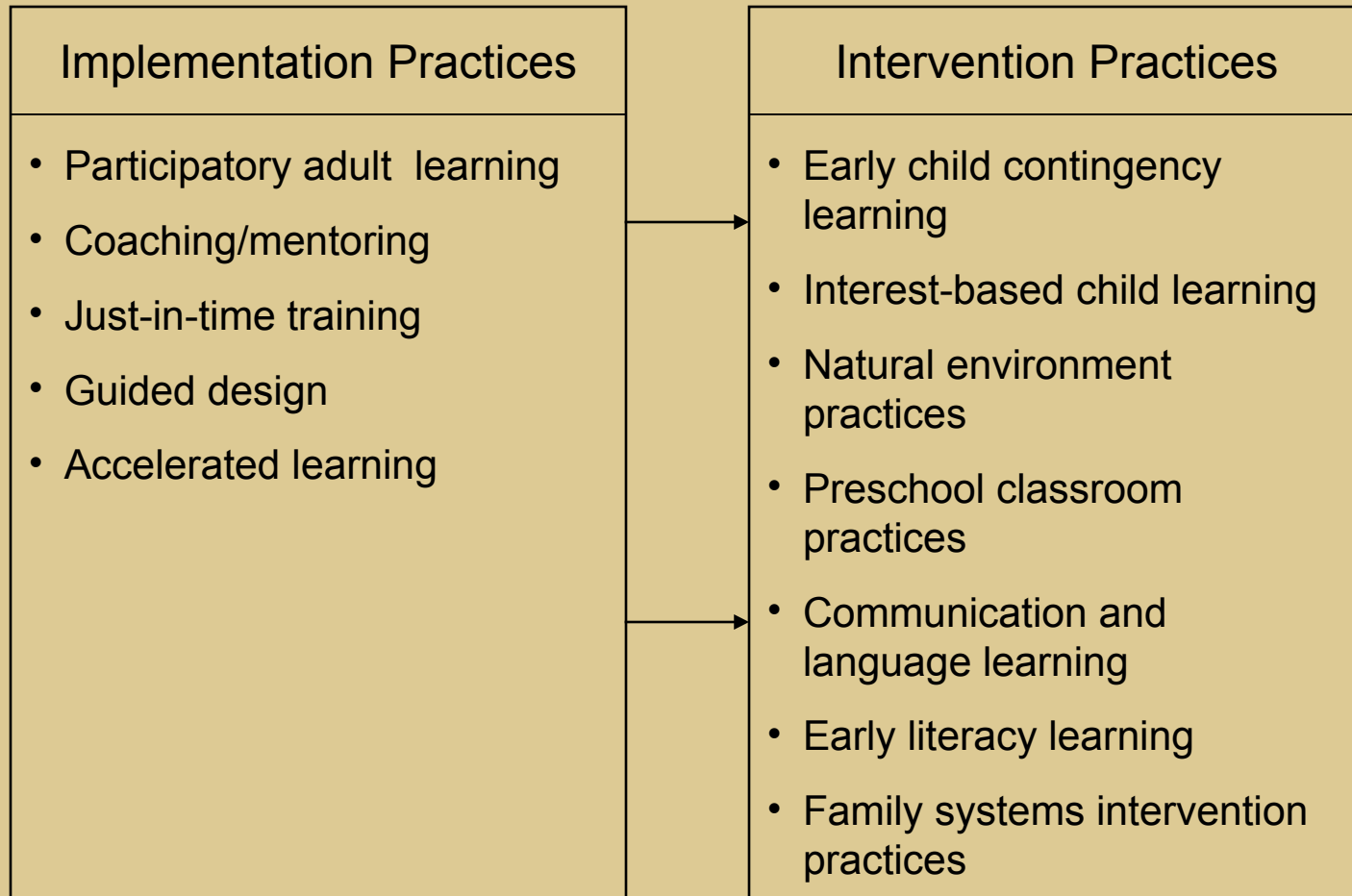
Purpose of the Presentation

- Describe the difference between intervention and implementation practices
- Describe the key characteristics of an evidence-based approach to implementation
- Describe the evidence base for the implementation practices
- Describe the findings from an evaluation study using the evidence-based implementation practices

Two Types of Evidence-Based Practices

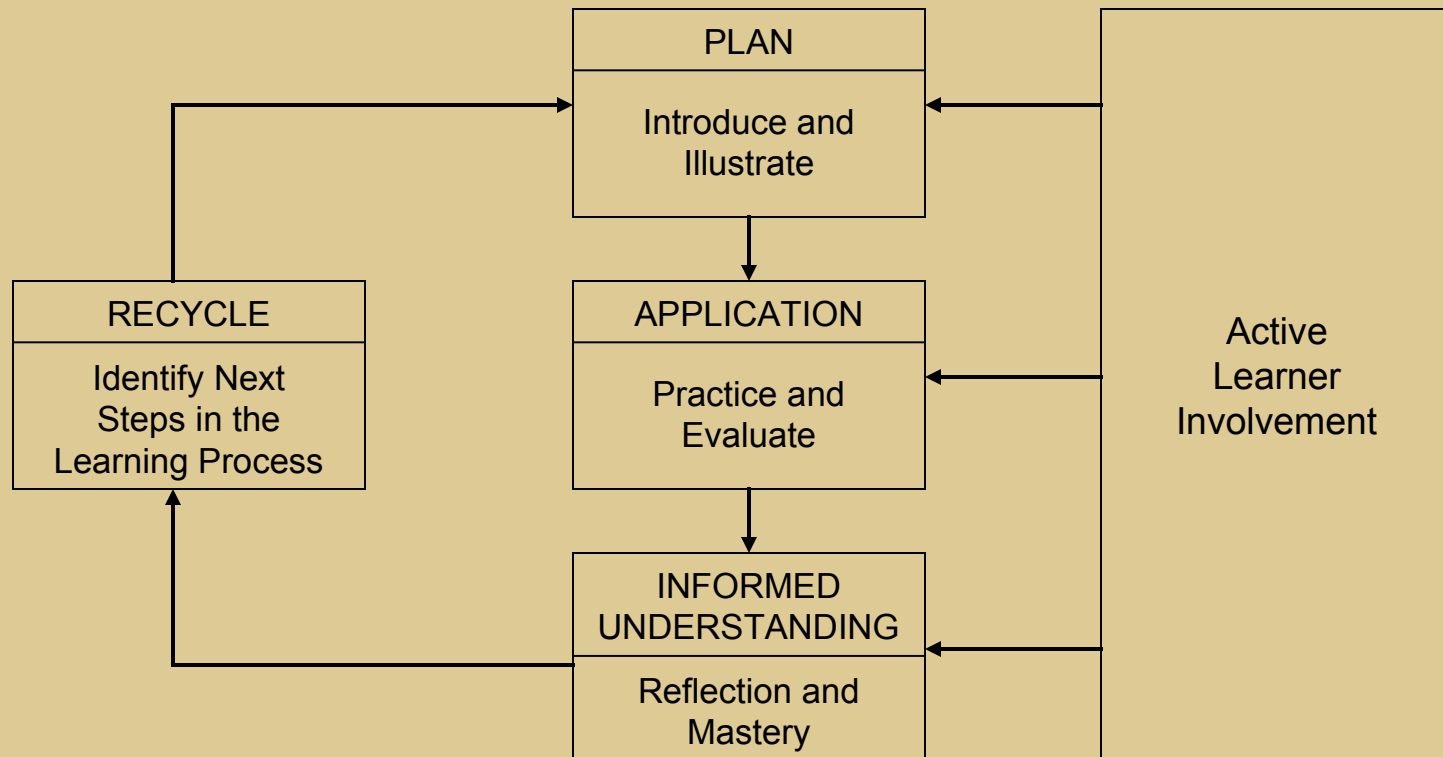
- Evidence-Based Intervention Practices
 - Early childhood intervention practices
- Evidence-Based Implementation Practices
 - Adult learning methods

Relationship Between the Two Types of Practices



PALS

(*P*articipatory *A*dult *L*earning *S*trategy)



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 noncollege 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.

Six Characteristics Identified in *How People Learn*^a Were Used to Code and Evaluate the Adult Learning Methods

Planning

- Introduce Engage the learner in a preview of the material, knowledge or practice that is the focus of instruction or training
- Illustrate Demonstrate or illustrate the use or applicability of the material, knowledge or practice for the learner

Application

- Practice Engage the learner in the use of the material, knowledge or practice
- Evaluate Engage the learner in a process of evaluating the consequence or outcome of the application of the material, knowledge or practice

Deep Understanding

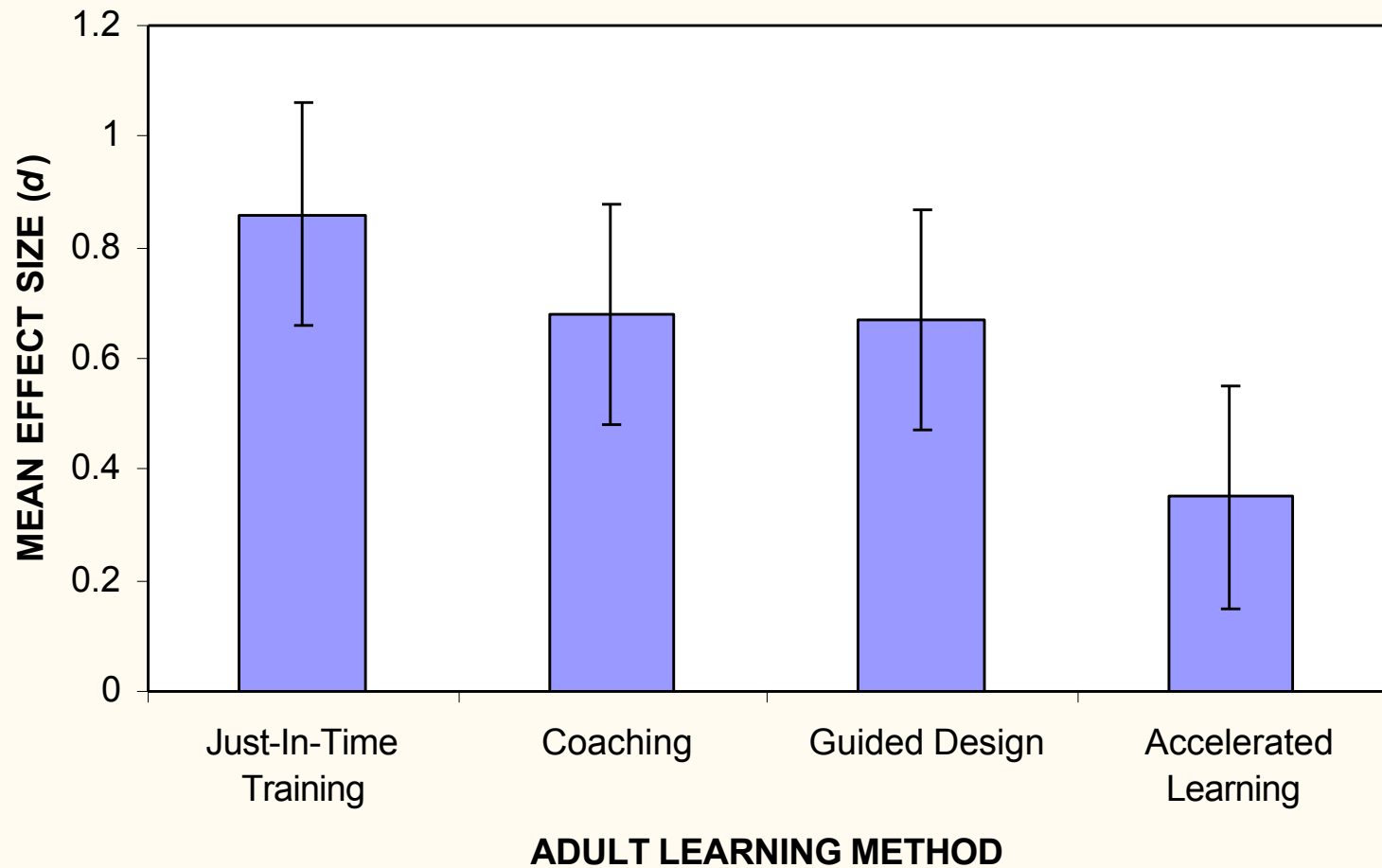
- Reflection Engage the learner in self-assessment of his or her acquisition of knowledge and skills as a basis for identifying “next steps” in the learning process
- Mastery Engage the learner in a process of assessing his or her experience in the context of some conceptual or practical model or framework, or some external set of standards or criteria

^a Donovan, M. et al. (Eds.) (1999). *How people learn*. Washington, DC: National Academy Press.

Efficacy of the Adult Learning Methods

Effect size for the intervention vs. nonintervention group comparisons is $d = .56$ (95% Confidence Interval = .41 to .71).

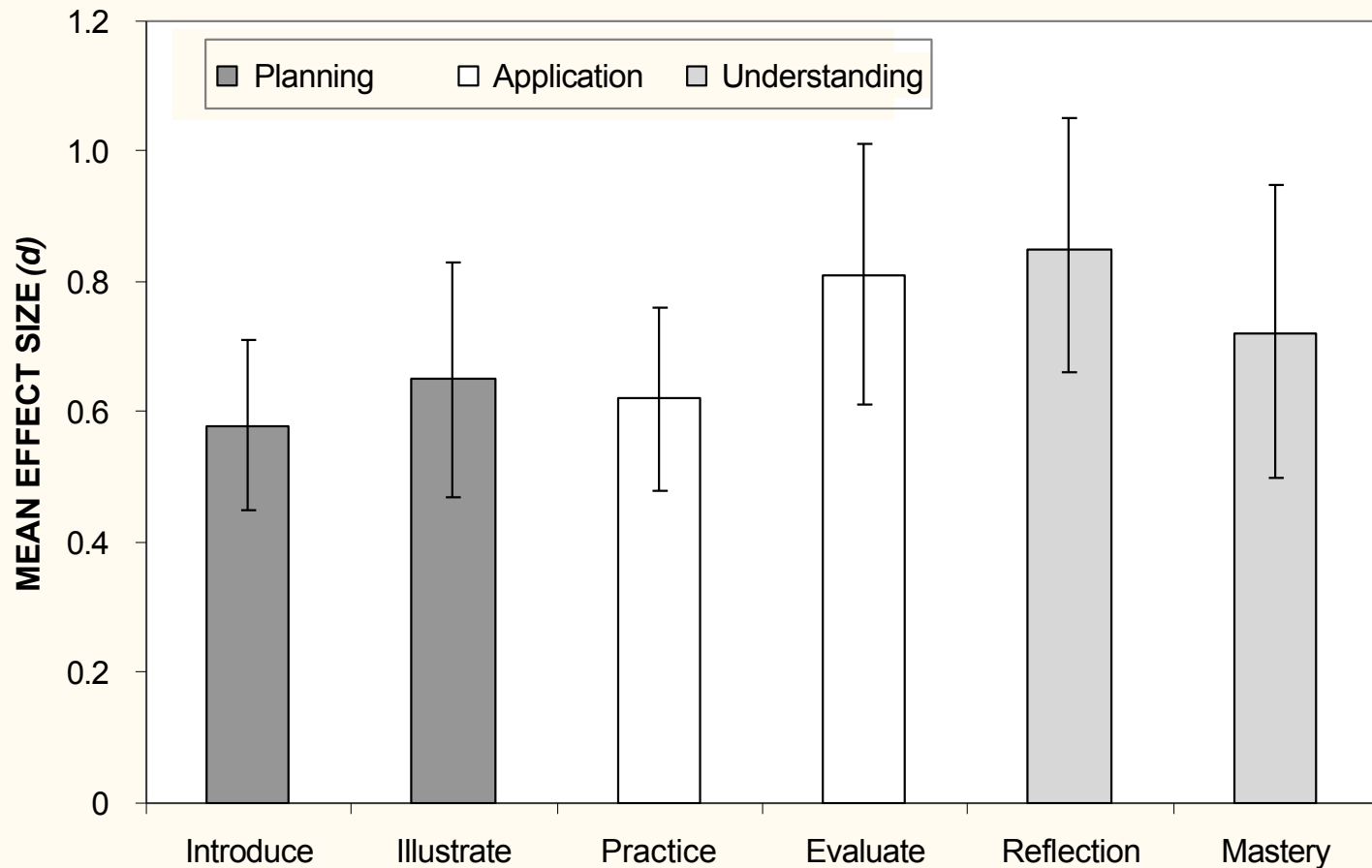
Efficiency of the Four Adult Learning Methods



Translational Findings

Process for unpacking and unbundling the key characteristics of the adult learning methods

Effect Sizes for the Six Adult Learning Characteristics



Effect Sizes for Introducing Information to Learners

Practices	Number		Mean Effect Size (<i>d</i>)	95% Confidence Interval
	Studies	Effect Sizes		
Pre-class exercises	9	9	1.02	.63-1.41
Out of class activities/self-instruction	12	20	.76	.44-1.09
Classroom/workshop lectures	26	108	.68	.47-.89
Dramatic readings	18	40	.35	.13-.57
Imagery	7	18	.34	.08-.59
Dramatic readings/imagery	4	11	.15	-.33-.62

Effect Sizes for Illustrating/Demonstrating Learning Topic

Practices	Number		Mean Effect Size (<i>d</i>)	95% Confidence Interval
	Studies	Effect Sizes		
Using learner input for illustration	6	6	.89	.28-1.51
Role playing/simulations	20	64	.87	.58-1.17
Real life example/real life + role playing	6	10	.67	.27-1.07
Instructional video	5	49	.33	.09-.59

Effect Sizes for Learner Application

Characteristics	Number		Mean Effect Size (<i>d</i>)	95% Confidence Interval
	Studies	Effect Sizes		
Real life application + role playing	5	20	1.10	.48-1.72
Problem solving tasks	16	29	.67	.39-.95
Real life application	17	83	.58	.35-.81
Learning games/writing exercises	9	11	.55	.11-.99
Role playing (skits, plays)	11	35	.41	.21-.62

Effect Sizes for Learner Evaluation

Practices	Number		Mean Effect Size (<i>d</i>)	95% Confidence Interval
	Studies	Effect Sizes		
Assess strengths/weaknesses	14	48	.96	.67-1.26
Review experience/make changes	19	35	.60	.36-.83

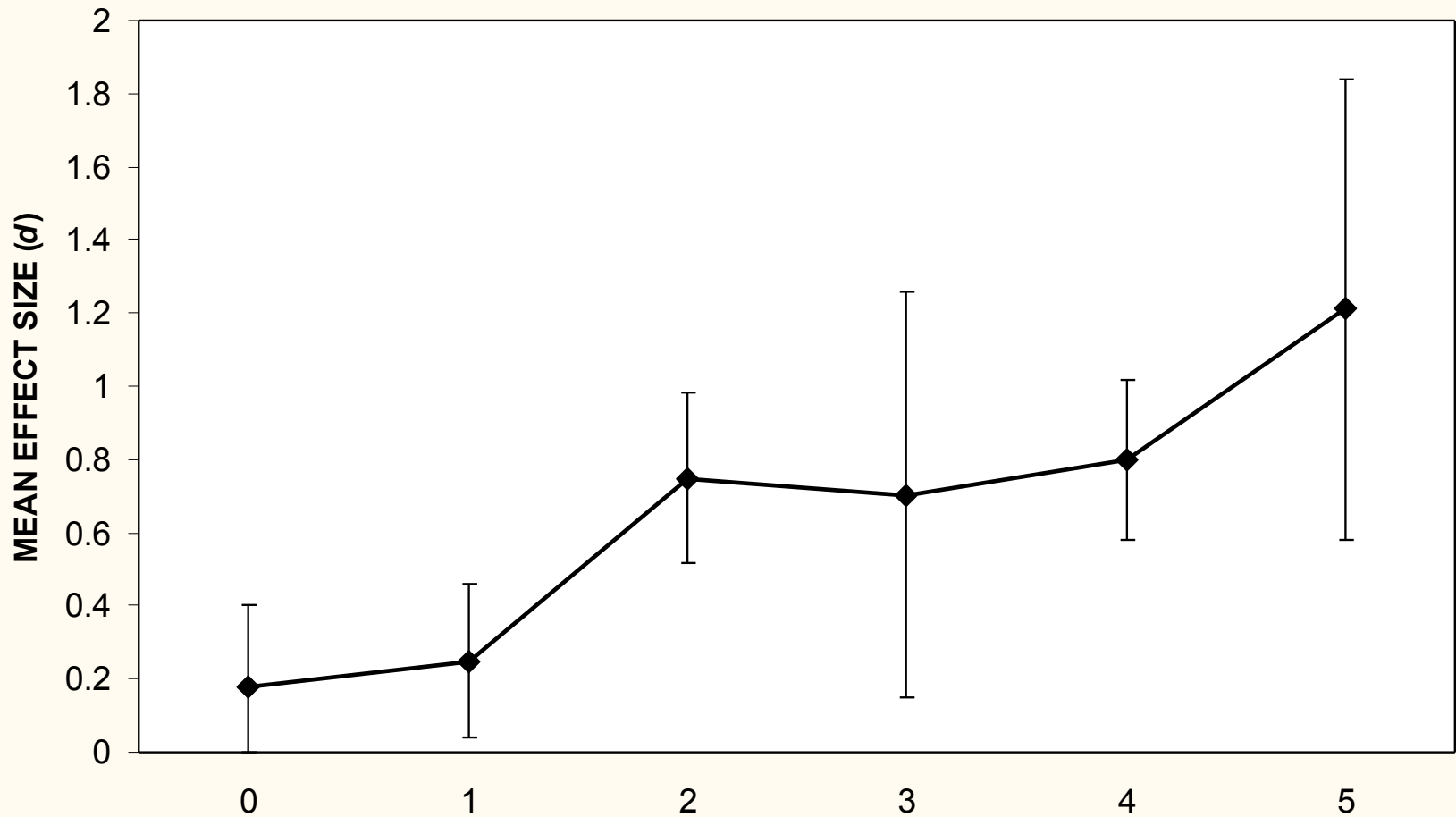
Effect Sizes for Learner Reflection

Practices	Number		Mean Effect Size (<i>d</i>)	95% Confidence Interval
	Studies	Effect Sizes		
Performance improvement	9	34	1.07	.69-1.45
Journaling/behavior suggestion	8	17	.75	.49-1.00
Group discussion about feedback	16	29	.67	.39-.95

Effect Sizes for Self-Assessment of Learner Mastery

Practices	Number		Mean Effect Size (<i>d</i>)	95% Confidence Interval
	Studies	Effect Sizes		
Standards-based assessment	13	44	.76	.42-1.10
Self-assessment	16	29	.67	.39-.95

Cumulative Effects of the Adult Learning Characteristics



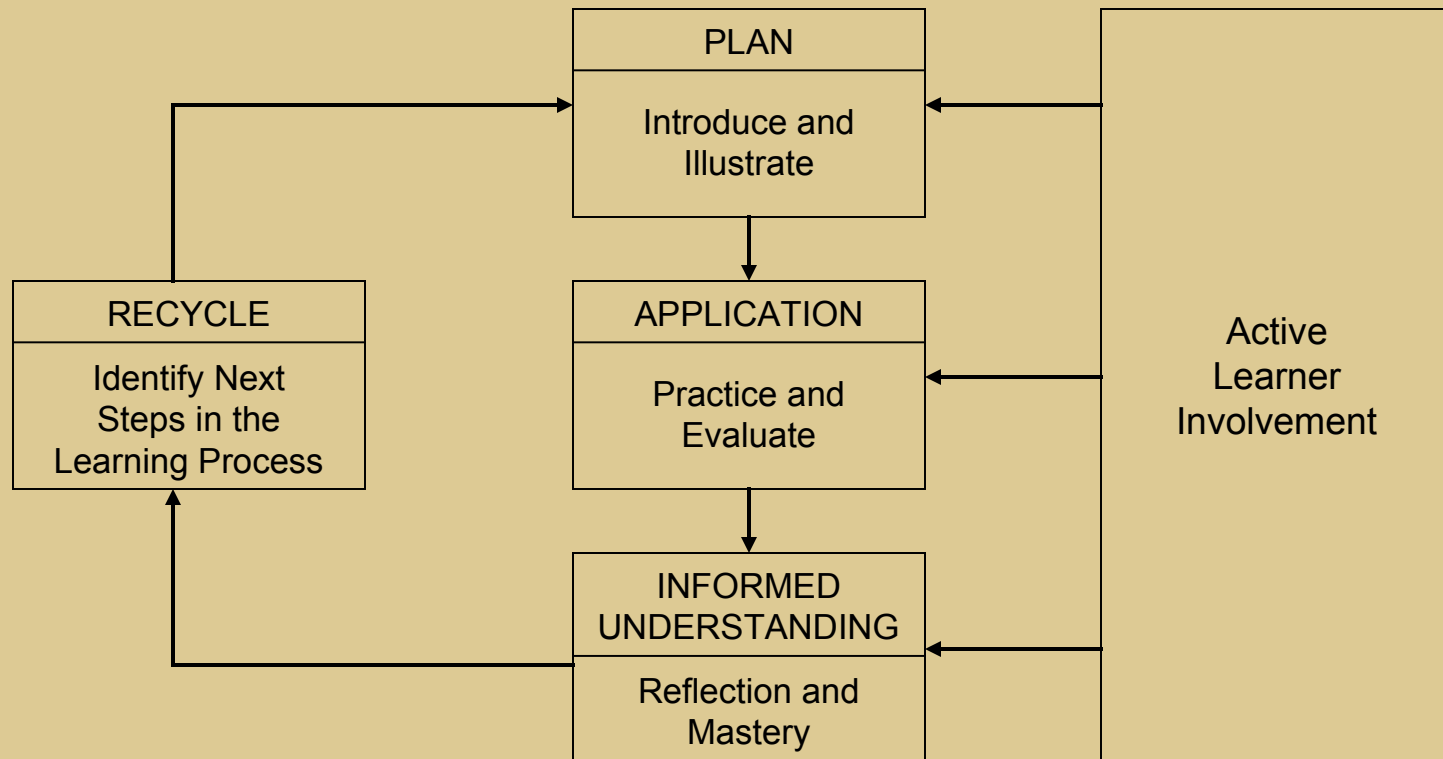
Additional Translational Synthesis Findings

- The smaller the number of persons participating in a training (<20), the larger the effect sizes for the study outcomes.
- The more hours of training over an extended number of sessions, the better the study outcomes.
- The practices are similarly effective when used in different settings with different types of learners.

Translating the Synthesis Findings into an Adult Learning Strategy

PALS

(*P*articipatory *A*dult *L*earning *S*trategy)



Trainer and Trainee Roles in the Different Phases of PALS

PALS Phases	Trainer Roles	Trainee Roles
<i>Introduction</i>	<ul style="list-style-type: none"> Preview learning topic Describe key elements Provide examples Include trainee input Illustrate application Demonstrate application 	<ul style="list-style-type: none"> Complete pretraining preview Pre-class/workshop exercises Provide input on the learning topic In-class/workshop warm-up exercises
<i>Application</i>	<ul style="list-style-type: none"> Facilitate application Observe trainee application Provide <i>in vivo</i> feedback/guidance Facilitate learner assessment of options 	<ul style="list-style-type: none"> Provide examples of application Trainee role playing, games, etc. Implement/practice use of the subject matter Evaluate use of the knowledge or practice
<i>Informed Understanding</i>	<ul style="list-style-type: none"> Establish learning standards Engage learners in self-assessment Provide guidance to learners Provide behavioral suggestions 	<ul style="list-style-type: none"> Standards-based evaluation Conduct self-assessment Trainer-guided learner reflection Journaling Group discussions of understanding
<i>Repeat Learning Process</i>	<ul style="list-style-type: none"> Joint planning Trainer guidance Trainer/trainee mentoring 	<ul style="list-style-type: none"> Joint planning Identify needed information/experiences Trainer/trainee mentoring

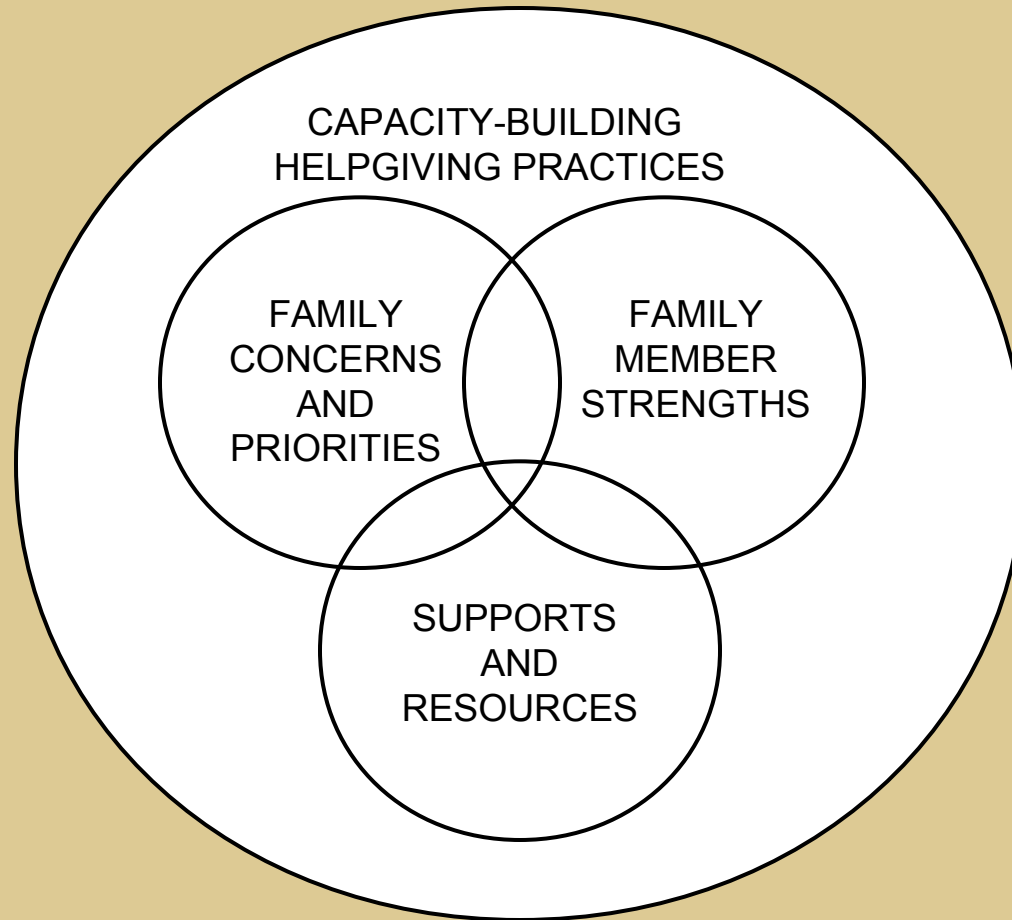
Promoting Adoption of Evidence-Based Practices Using PALS

- Family-systems early intervention practices
- SUNRISE early childhood intervention classroom practices
- Center for Early Literacy Learning early childhood intervention practices
- Everyday early childhood language learning practices
- Head Start teacher effectiveness project
- Early Head Start Windows of Opportunities project

Promoting Adoption of Family-Systems Intervention Practices

- 473 IDEA Part C early intervention practitioners
- 5 types of training (presentations, day and multi-day workshops, field-based and enhanced field-based)
- Participants were randomly assigned to complete the study outcome measure at one or six months after training
- Outcome measure included items on the usefulness of the training and the extent to which the training improved their abilities to work with families

Four Major Components of the Family-Systems Intervention Model that Constituted the Focus of In-service Training

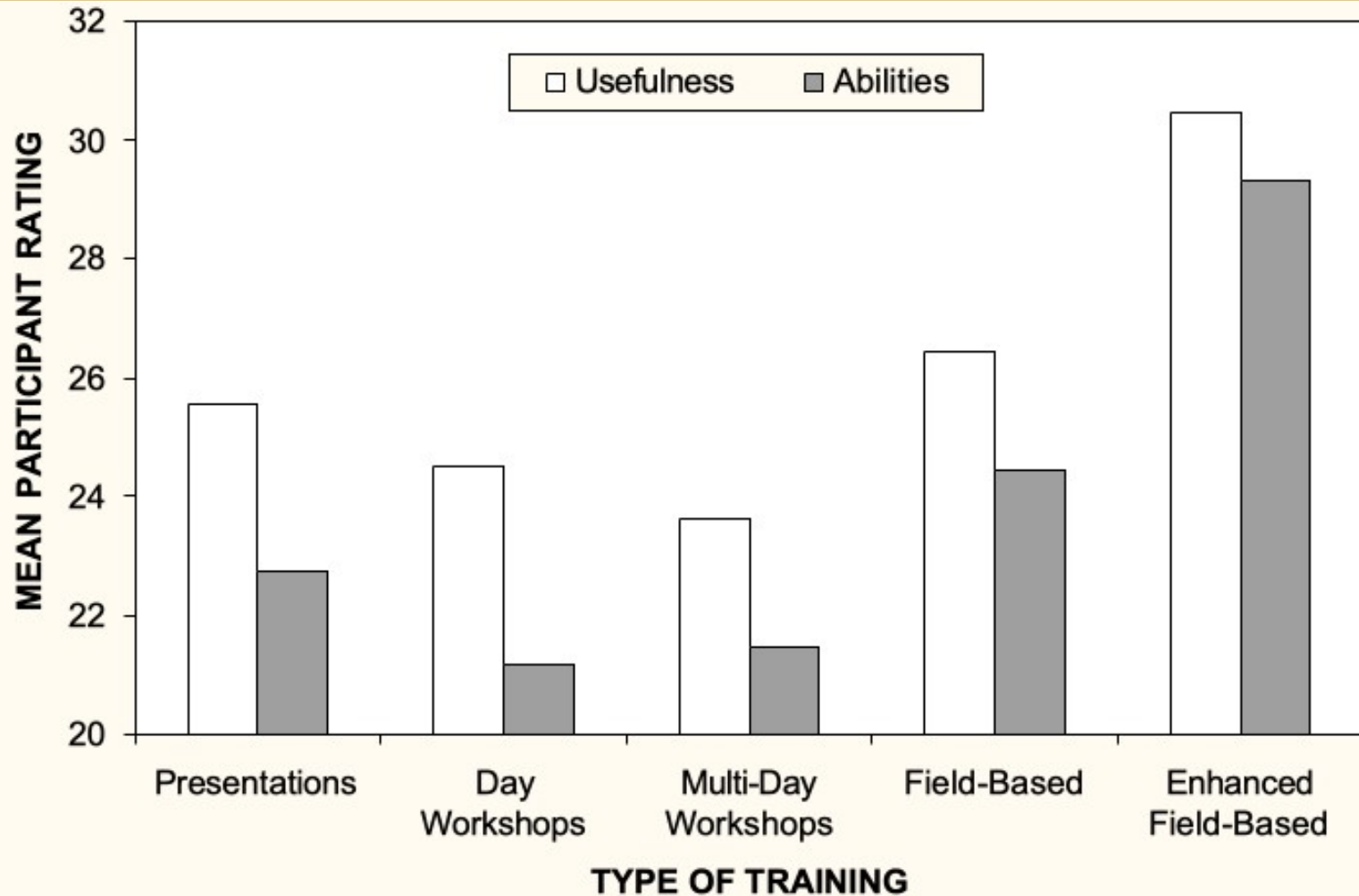


Characteristics of the Different Types of In-Service Training

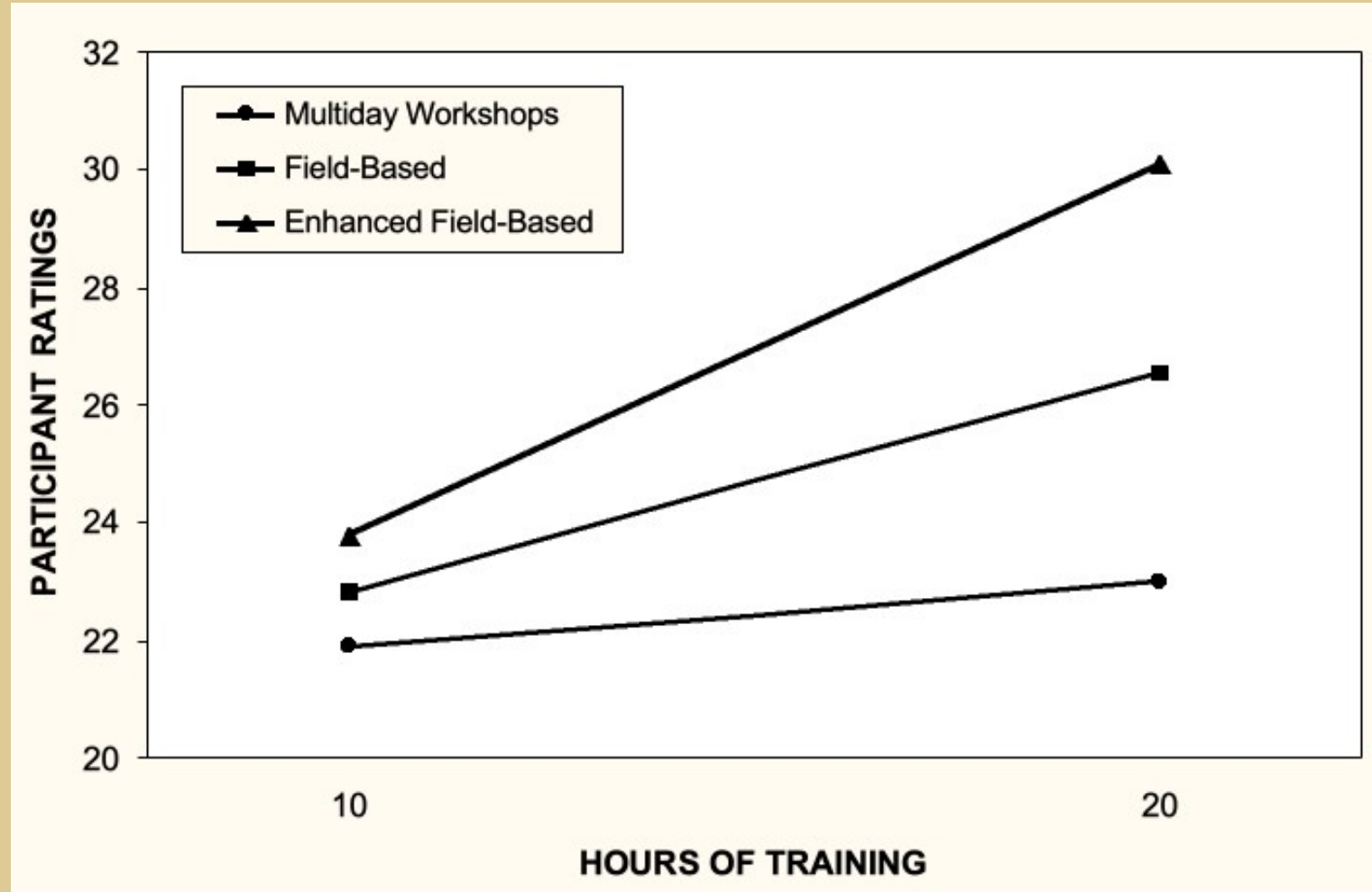
Practice Characteristics	Type of In-Service Training				
	Conference Presentations	Half Day/ Full Day Workshops	Multi-Day Workshops	Field-Based Training	Enhanced Field-Based Training
Trainer introduction of the practice	+	+	++	++	++
Trainer illustration of use of the practice	±	+	+	++	++
Trainee application/use of the practice	-	±	+	+	++
Trainee evaluation of his/her use of the practice	-	-	±	+	++
Trainee reflection on his/her learning	-	-	±	+	++
Trainee assessment of learner mastery	-	-	-	++	++
Multiple learning sessions	-	-	+	++	++

NOTE. - = No activity or opportunity, ± = limited opportunity, + = multiple opportunities, and ++ = multiple and varied opportunities.

Participants' Judgments of the Benefits of the Five Types of Training



Interaction Between Hours and Type of Training for Improved Family Systems Intervention Abilities



Conclusions

- PALS includes practices that have been found effective in promoting practitioner adoption of different kinds of early childhood practices
- Participatory adult learning is an effective implementation method
- Additional analyses of the use of PALS are expected to shed light on which characteristics of the practices matter most in terms of affecting learner outcomes

References

Trivette, C.M., Dunst, C.J., Hamby, D.W., & O'Herin, C.E. (2009). *Characteristics and consequences of adult learning methods and strategies* [Winterberry Research Syntheses, Vol. 2, Number 2]. Asheville, NC: Winterberry Press. *Free download at www.wbpress.com*

Dunst, C.J., & Trivette, C.M. (2009). Let's be PALS: An evidence-based approach to professional development. *Infants and Young Children, 22*, 163-175. Free download at http://dept.washington.edu/isei/iyc/22.3_Dunst.pdf

Website: www.puckett.org

Discussion Questions

In what ways does this model match with how you are doing professional development?

What components of this model do you or might you find easy to implement?

What components of this model do you or might you find challenging to implement?

How have you or might you get around some of the implementation challenges?

Who makes the decisions about how training is going to look in your state?