Professional Development in Applied Settings: Implications for Improving Practices with Young Children and Their Families

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Early Childhood Intervention with Young Children with Disabilities

- Early childhood intervention may be conceptualized as a ***set of practices*** used by teachers, therapists, or other professionals to promote and enhance the learning and development of young children with developmental disabilities or delays.

- These practices can be implemented either directly by professionals or by teaching parents or other primary caregivers to intervene with young children.

Some Examples of
Early Childhood Intervention Practices

- Assessment of child behavior and development

- Use of assistive technology to promote communication skills

- Responsive or incidental teaching to promote early cognitive abilities

- Everyday activities (natural environments) as sources of child learning opportunities

- Social supports provided to parents of young children with disabilities

- Family-centered practices to strengthen parent capacity to provide early intervention to their children

Evidence-Based
Early Childhood Intervention

Advances in research have resulted in the identification of key characteristics of early intervention practices that are known to be associated with optimal development-enhancing consequences. Evidence-based or research-informed early intervention practices are now the practices of choice when working with young children with developmental disabilities and their families.

Lesson Learned
From More than 40 Years of Experience

No early childhood intervention practice, no matter its evidence base, is likely to be adopted and used if the implementation methods used to teach or train practitioners to use the practice are themselves ineffective. Therefore concern for the characteristics of implementation practices that are associated with optimal learner and practitioner outcomes should be of paramount importance as part of implementation research.
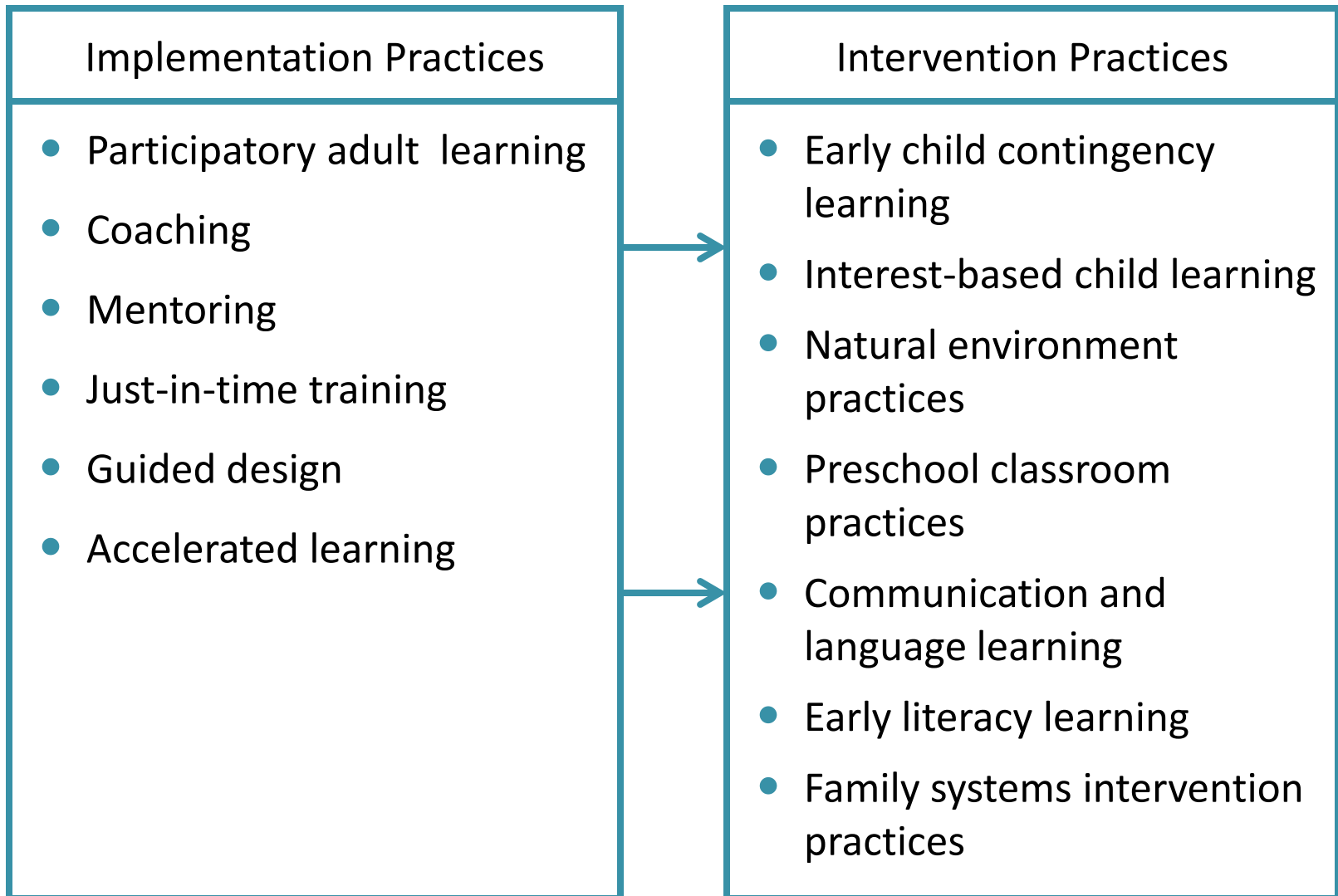
Two Types of Evidence-Based Practices

- Evidence-Based Intervention Practices
  - Early childhood intervention practices

- Evidence-Based Implementation Practices
  - Adult learning methods

Definition of Terms

- ***Intervention practices*** include methods and strategies used by intervention agents (teachers, therapists, clinicians, parents, etc.) to affect changes or produce desired outcomes in a targeted population or group of recipients (e.g., infants and toddlers with disabilities).

- ***Implementation practices*** include methods and procedures used by implementation agents (trainers, coaches, instructors, supervisors, etc.) to promote interventionists' use of evidence-based intervention practices.
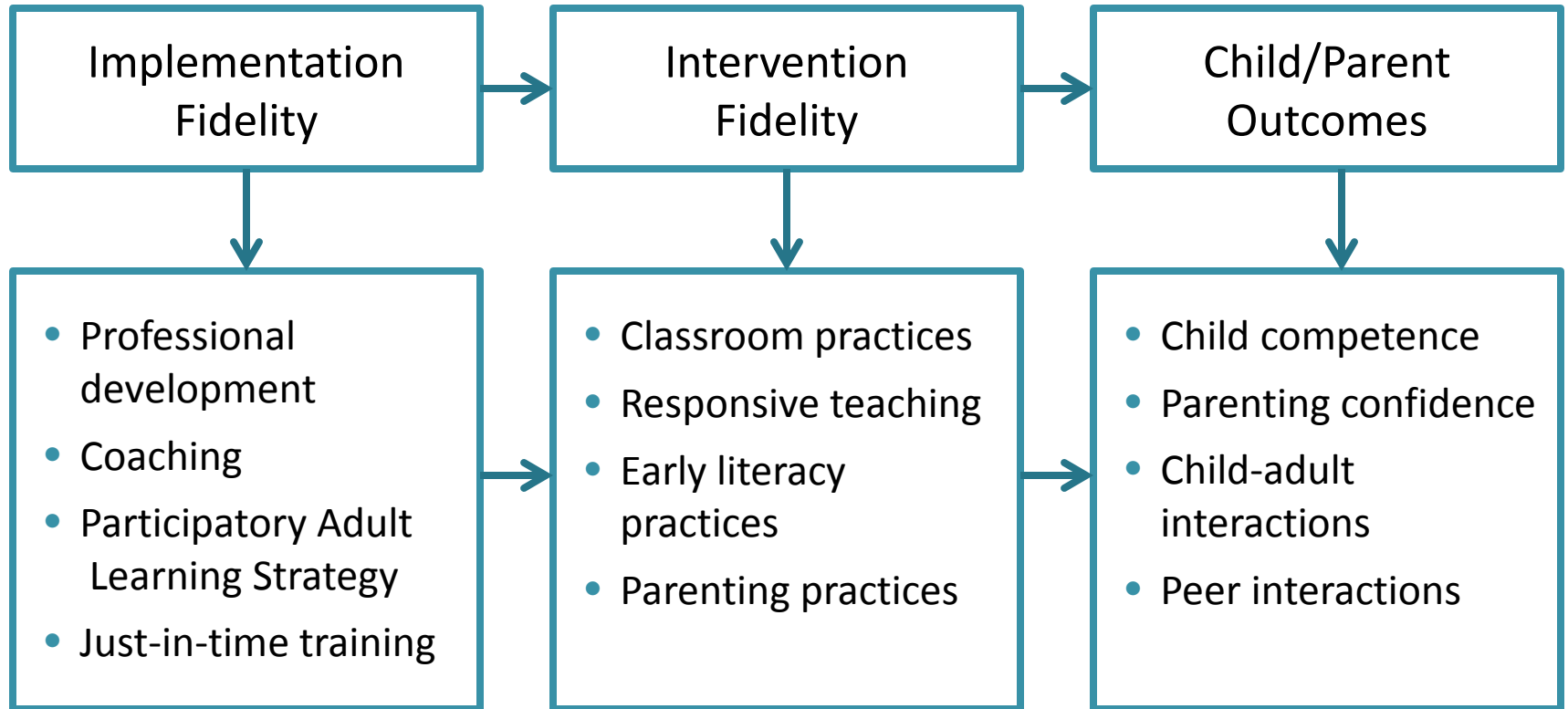
Relationship Between the Two Types of Practices

Implementation Practices	Intervention Practices
• Participatory adult learning • Coaching • Mentoring • Just-in-time training • Guided design • Accelerated learning	• Early child contingency learning • Interest-based child learning • Natural environment practices • Preschool classroom practices • Communication and language learning • Early literacy learning • Family systems intervention practices

Two Types of Fidelity

- *Implementation fidelity* refers to the degree to which coaching, inservice training, and other kinds of professional development are conducted and implemented in ways that promote adoption and use of evidence-based intervention practices.

- *Intervention fidelity* refers to the degree to which evidence-based practices are adopted and used in an intended manner by practitioners or parents and have expected or hypothesized effects.

Relationship Between the Two Types of Fidelity and Child/Parent Outcomes

Implementation Fidelity	→	Intervention Fidelity	→	Child/Parent Outcomes

Examples of the
Two Types of Fidelity and Outcomes

Implementation Fidelity	→	Intervention Fidelity	→	Child/Parent Outcomes

• Professional development • Coaching • Participatory Adult Learning Strategy • Just-in-time training	→	• Classroom practices • Responsive teaching • Early literacy practices • Parenting practices	→	• Child competence • Parenting confidence • Child-adult interactions • Peer interactions

Research Synthesis of Adult Learning Studies[a]

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

- 58 randomized control design studies

- 2,095 experimental group participants and 2,213 control or comparison group participants

- Combination of studies in university and nonuniversity settings

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

- The influence of the adult learning methods on the learner outcomes was estimated by weighted Cohen's d effect sizes for the differences on the post test scores for the intervention vs. nonintervention group participants

[a] Dunst, C.J., Trivette, C.M., & Hamby, D.W. (2010). Meta-analysis of the effectiveness of four adult learning methods and strategies. *International Journal of Continuing Education and Lifelong Learning*, 3(1), 91-112.

Characteristics Used to Code and Evaluate the Implementation Studies[a]

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
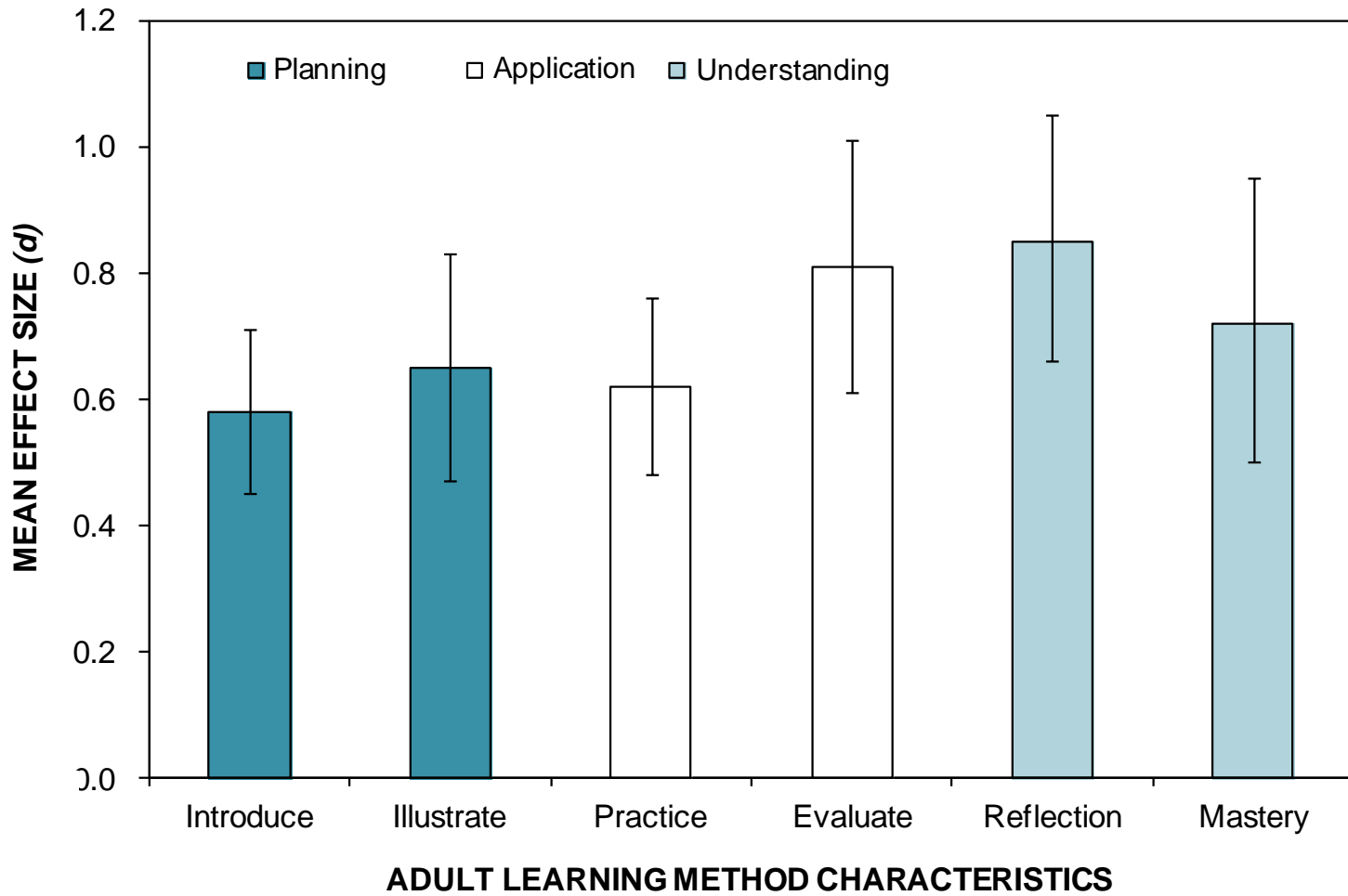
Deep Understanding

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 performance standards or criteria
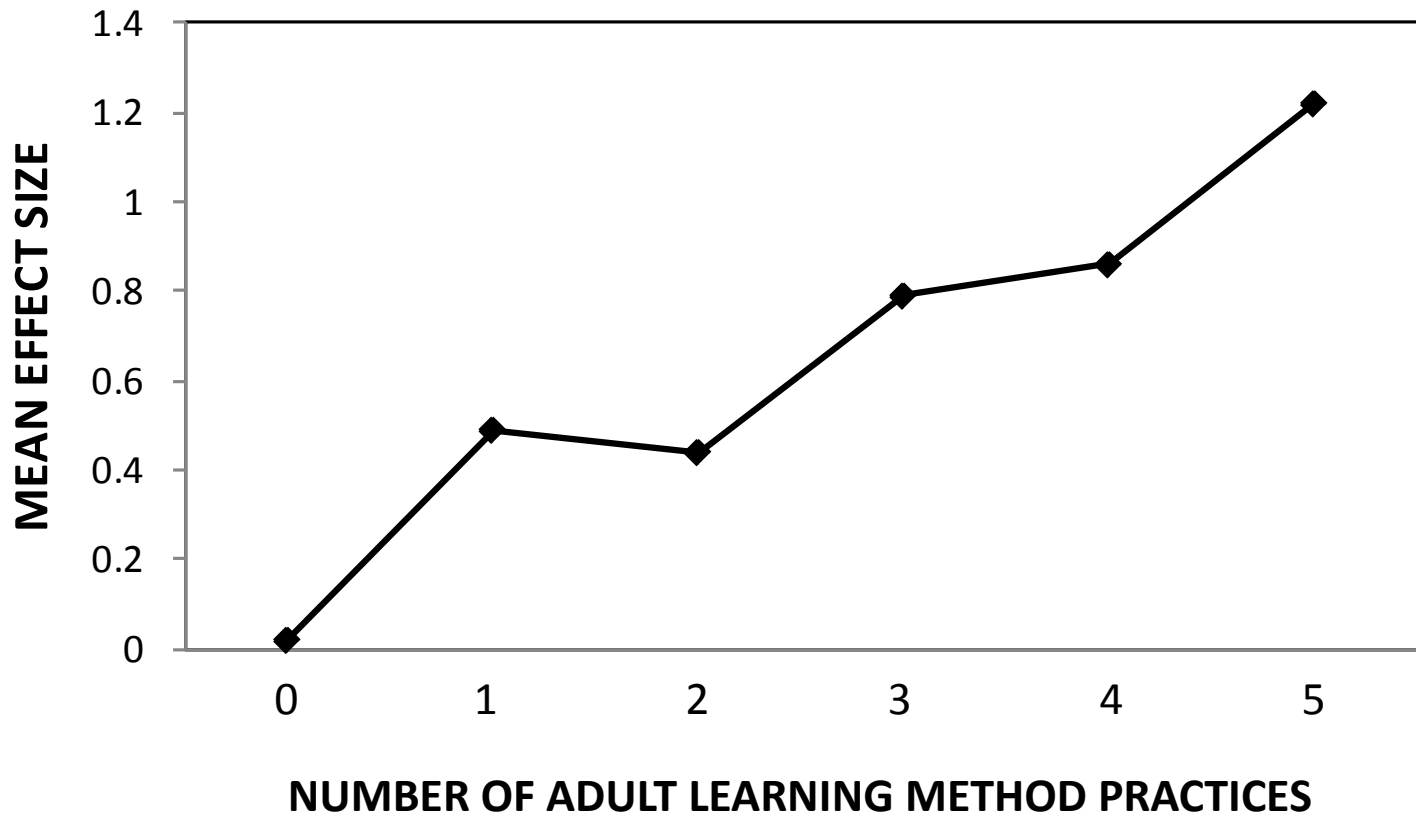
Major Findings from the Research Synthesis

Most Effective Adult Learning Method Practices

Characteristic	Practice	Mean Effect Size
Introduction	Out-of-class learner activities/self-instruction	0.64
	Classroom/workshop presentations	0.63
	Pre-class learner exercises	0.54
Illustration	Trainer role playing/simulations	0.55
	Learner informed input	0.53
Practicing	Real-life learner application	0.94
	Real-life learner application/role playing	0.86
Evaluation	Self assessment of strengths/weaknesses	0.94
Reflection	Identify performance-improvement goals	1.27
	Journaling/behavior suggestions	0.82
Mastery	Standards-based assessment	0.86

Cumulative Effects of Different Combinations of the Most Effective Adult Learning Method Practices

Other Important Findings from the Meta-Analysis

- Training provided to a small number of learners (< 10) was much more effective than training provided to a larger number of learners.

- Training provided on multiple occasions over a period of time (> 10 weeks) for more than 10 hours was more effective than one-time training.

- Training provided in the context of real-life application in learners' work settings was more effective than "outside" training.

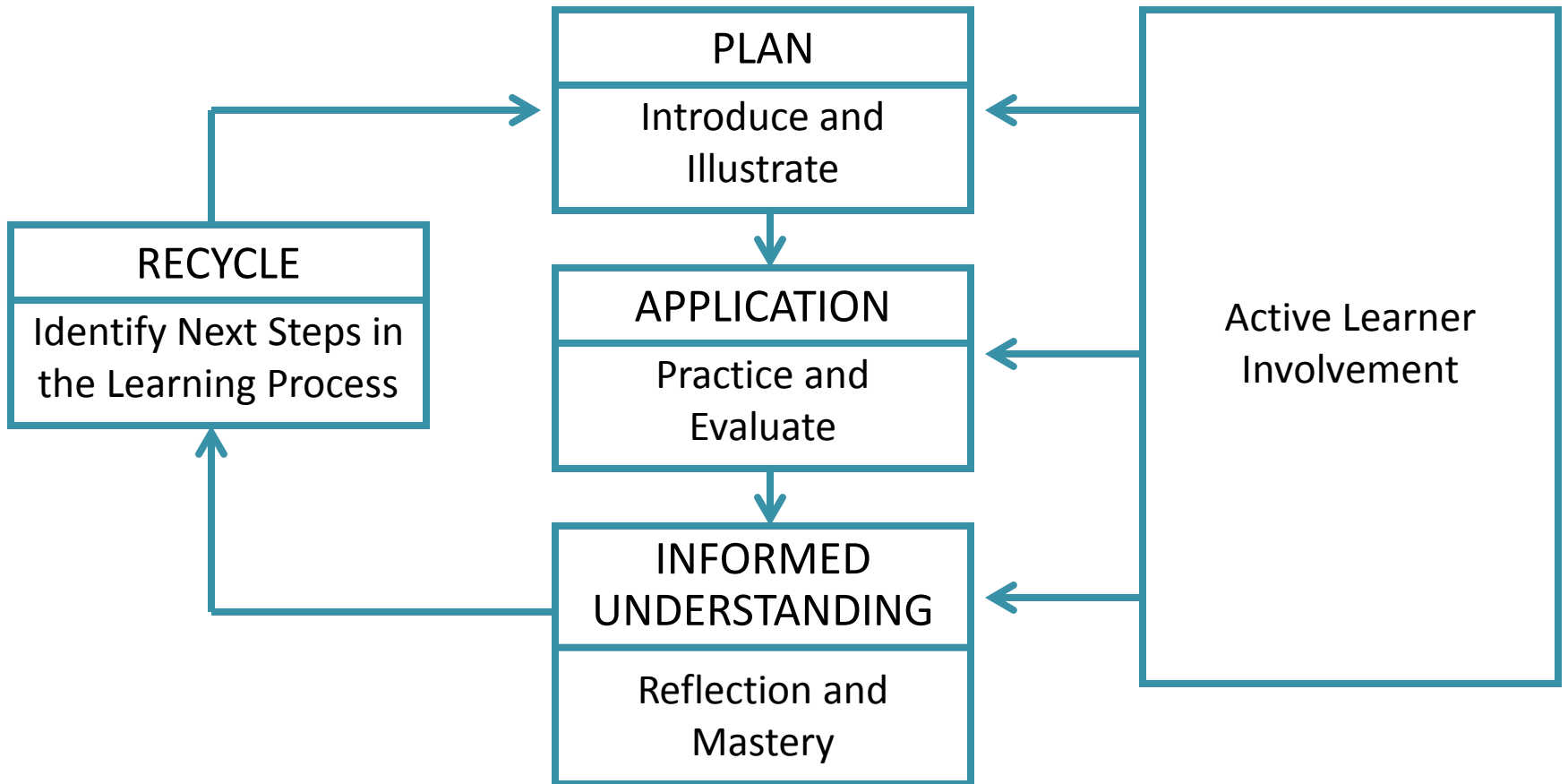# Implications for Professional Development

Results from the meta-analyses as well as other professional development research were used to develop an approach to adult learning called PALS (Participatory Adult Learning Strategy)[a] as well as checklists for developing and implementing training procedures to promote early childhood practitioner adoption and use of evidence-based intervention practices. PALS and the checklists provide instructors and trainers a framework for including those implementation practices found most effective in research investigating methods used to promote adoption of evidence-based practices.

[a] Dunst, C.J., & Trivette, C.M. (2009). Let's be PALS: An evidence-based approach to professional development. *Infants and Young Children*, 22(3), 164 – 175.
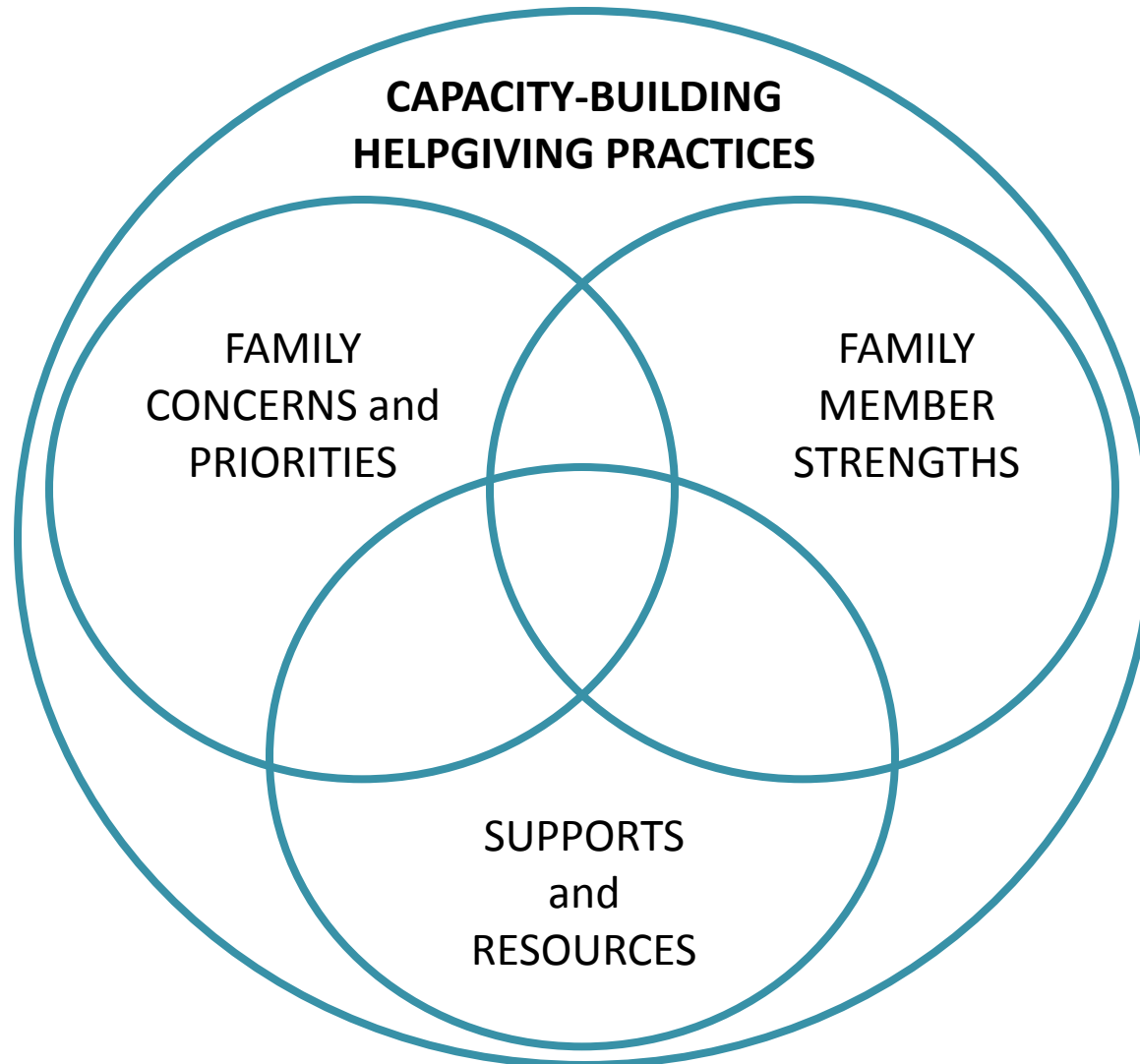
PALS
(*P*articipatory *A*dult *L*earning *S*trategy)

PLAN
Introduce and Illustrate

RECYCLE
Identify Next Steps in the Learning Process

APPLICATION
Practice and Evaluate

INFORMED UNDERSTANDING
Reflection and Mastery

Active Learner Involvement

Trainer and Trainee Roles in the Different Phases of PALS

PALS Phases	Trainer Roles	Trainee Roles
Introduction	Preview learning topic	Complete pretraining preview
	Describe key elements	Pre-class/workshop exercises
	Provide examples	Provide input on the learning topic
	Include trainee input	In-class/workshop warm-up exercises
	Illustrate application	
	Demonstrate application	
Application	Facilitate application	Provide examples of application
	Observe trainee application	Trainee role playing, games, etc.
	Provide *in vivo* feedback/guidance	Implement/practice use of the subject matter
	Facilitate learner assessment of options	Evaluate use of the knowledge or practice
Informed Understanding	Establish learning standards	Standards-based evaluation
	Engage learners in self-assessment	Conduct self-assessment
	Provide guidance to learners	Trainer-guided learner reflection
	Provide behavioral suggestions	Journaling
		Group discussions of understanding
Repeat Learning Process	Joint planning	Joint planning
	Trainer guidance	Identify needed information/experiences
	Trainer/trainee mentoring	Trainer/trainee mentoring

Promoting Adoption
of Family-Systems Intervention Practices

- 473 early intervention practitioners

- Five 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

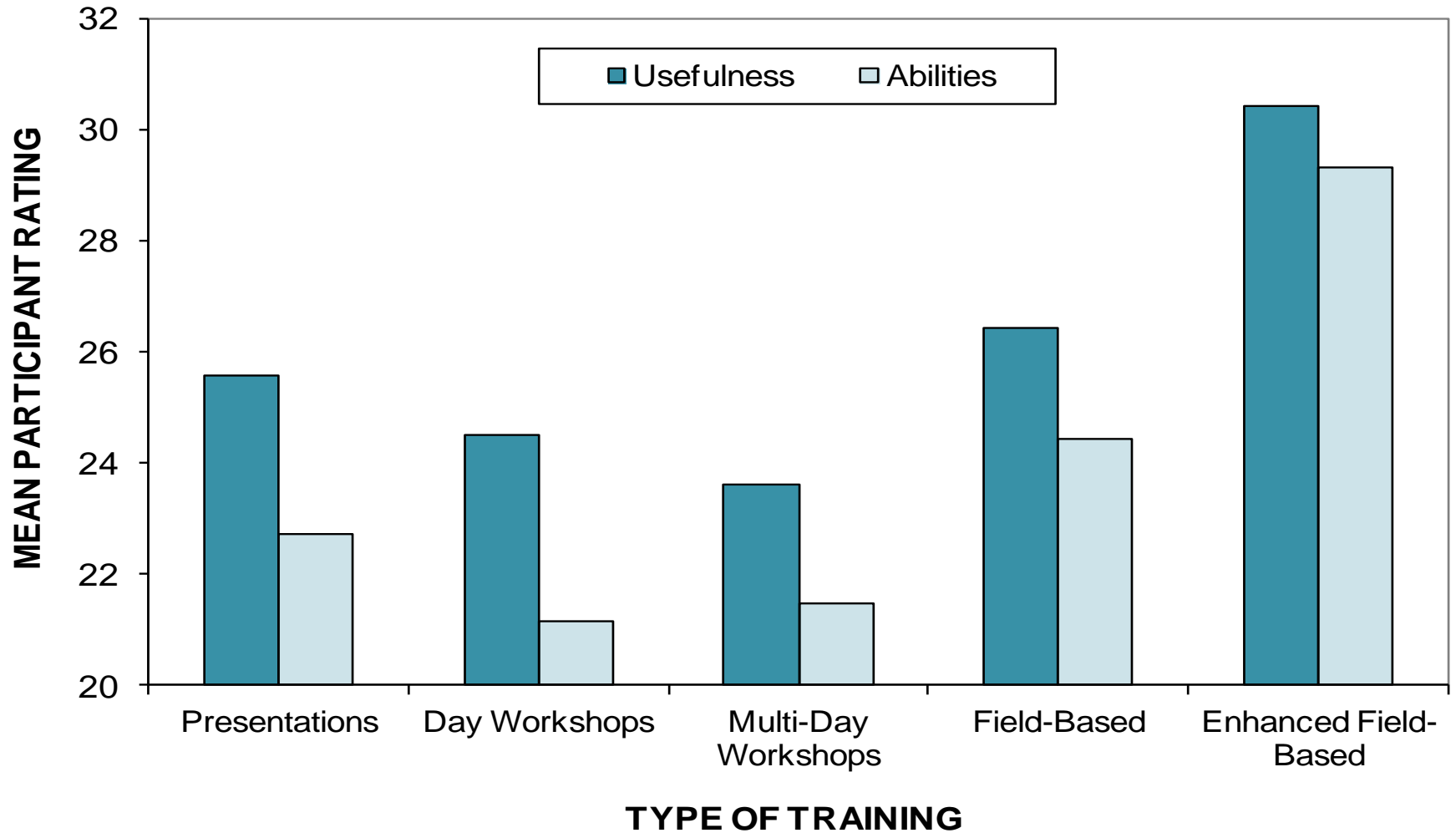# Family-Systems Intervention Model That Was the Focus of In-service Training

CAPACITY-BUILDING
HELPGIVING PRACTICES

FAMILY CONCERNS and PRIORITIES

FAMILY MEMBER STRENGTHS

SUPPORTS and RESOURCES

Characteristics of the Different Types of In-Service Training

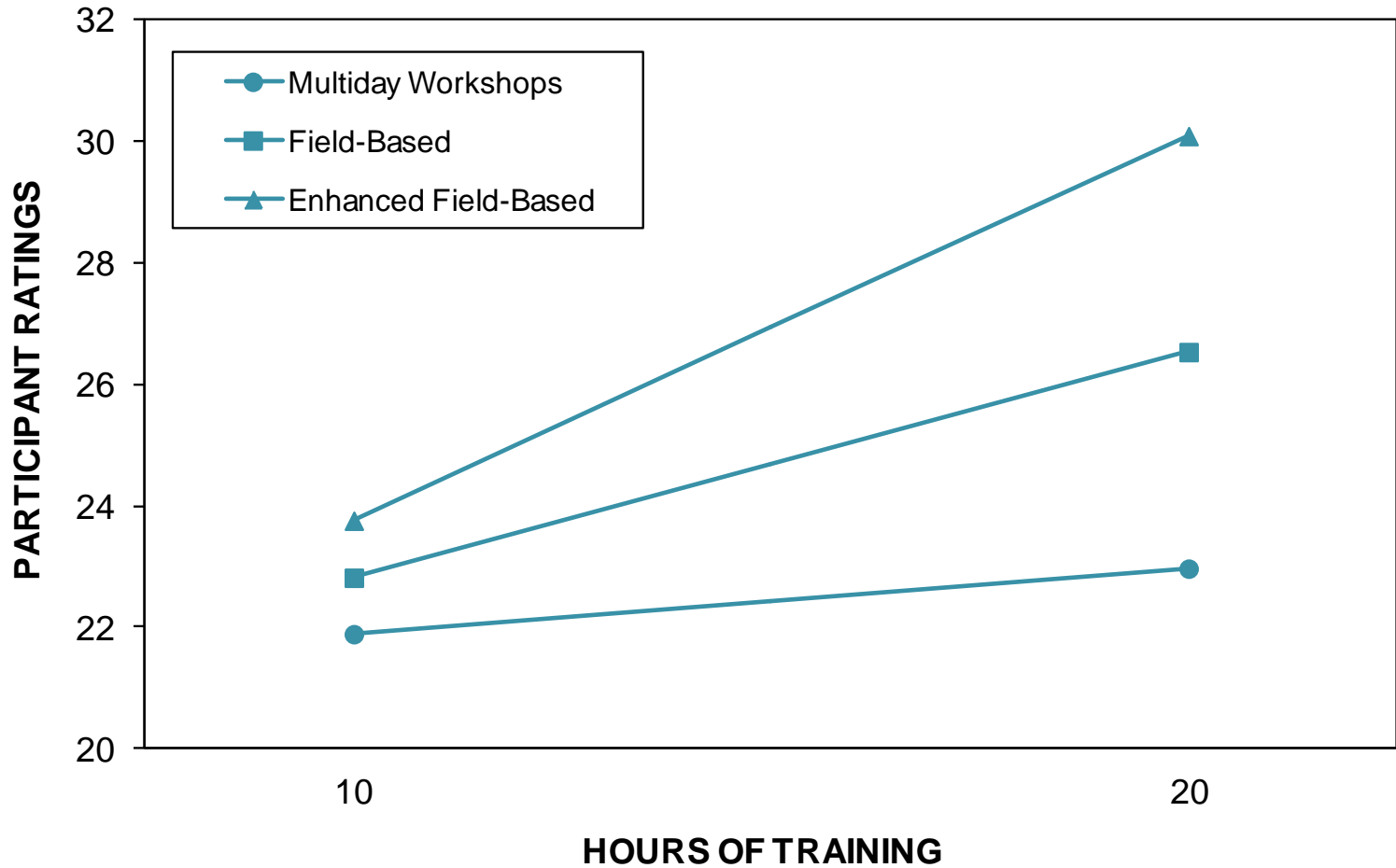| Practice Characteristics	Type of In-Service Training				
	Conference Presentations	Half Day/ Full Day Workshops	Multi-Day Workshops	Field-Based Training	Enhanced Field-Based Training
Trainer introduction of the practice	+	+	++	++	++
Trainer illustration of use of the practice		+	+	++	++
Trainee application/use 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 Trainings

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

Conclusion

- Improving early intervention with young children with developmental disabilities requires attention to both evidence-based implementation and evidence-based intervention practices.

- Research on professional development has identified those trainer and learner practices that are important if professional development is most likely to be effective.

- Models such as PALS can help in the development and implementation of evidence-based professional development practices.