

# **Effective Educational Interventions for Young Children: The Central Importance of Professional Development**

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## Slide 1

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- t1 We are especially honored to be invited to share with you what we have learned about the effective professional development and how central professional development is to providing high quality early education and care for children. In the District of Columbia, this is an extraordinarily exciting opportunity. We have an unprecedented level of commitment in the form of legislation and public will to provide all children with a high quality early educational experience - universal voluntary pre-K is here! We also have many universities, foundations, public and charter schools, and private child care providers who are strongly committed to and already collaborating together to achieve excellence in teaching for all children. The common goal is to ensure that children have the requisite skills and knowledge and the positive feelings toward teachers and learning that will promote their continued success throughout all of their school year.

tracy.meadows, 7/15/2010

## Foundational Premises

- The education and well-being of our children will determine the future strength of our democracy.
- With certainty, we know effective ways to improve the educational attainment and well-being of children living in poverty and facing challenging life conditions.
- To thrive, all children must receive high quality, evidence-informed, intensive, and continuous supports for active learning as well as health promotion and health care.

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## Our Take-Action Hypotheses

- Without a vigorous program to provide intensive and effective professional development to all key individuals responsible for the education and health of young children, we will fail to realize the “expected benefits” of pre-K programs.
- To realize excellence, we must actively and openly measure the quality and quantity of learning activities in our pre-K programs, as well as our efforts to increase children’s family-based learning experiences.

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## Part 1

- An overview of major scientific findings about what promotes the educational attainment and well-being of young children.
- What types of professional development (PD) backed these “proven programs”?

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Evidenced-based  
"Seven Daily Learning Essentials"

- ❖ To be encouraged to explore
- ❖ To be mentored in basic skills
- ❖ To be celebrated for new skills
- ❖ To practice and extend new skills
- ❖ To be protected from harsh, inappropriate treatment
- ❖ To engage in rich, responsive language interactions
- ❖ To be guided in learning social rules

Ramey & Ramey, *Going to School*, 1999

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The Central Question of  
The Abecedarian (ABC) Project

Can participation in a high quality, intensive, early educational program lead to major changes in the educational attainment and the life course of children living in extremely impoverished conditions?

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The Abecedarian Project  
(1971 – present)

**Treatment Group**

- Nutritional supplements
- Supportive social services
- Free primary medical care
- **Preschool treatment:**  
Intensive (full day, 5 days/week  
50 wks/yr, 5 yrs)

**Control Group**

- Nutritional supplements
- Supportive social services
- Free or low-cost medical care

**Evidence-informed, individualized curriculum "Learninggames" used daily** with high levels of initial and ongoing professional development for teachers, assistants, directors

Campbell & Ramey, *American Educational Research Journal*, 1995

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## PD for the Abecedarian Project

- All lead teachers had 4-year college degrees
- All required intensive training in use of the newly developed curriculum, *Learninggames*
- Active onsite coaching multiple times per week
- Weekly staff meetings and review of weekly documented instructional activities
- Ongoing PD for new topics and problem-solving

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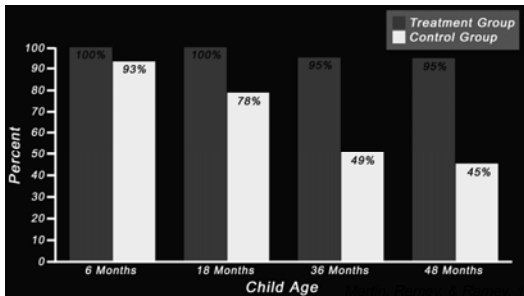
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Percent of Abecedarian Sample in Normal IQ Range (>84) by Age 4 yrs



American Journal of Public Health

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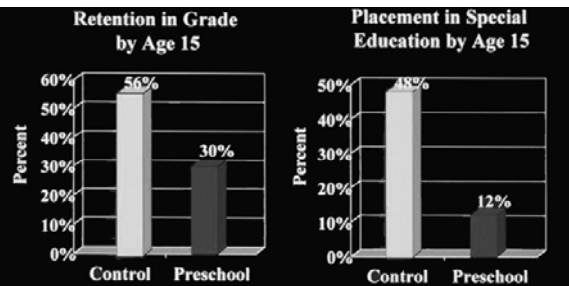
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## Practical Educational Benefits



Ramey & Ramey, 1999 *MR/DD Research Review*

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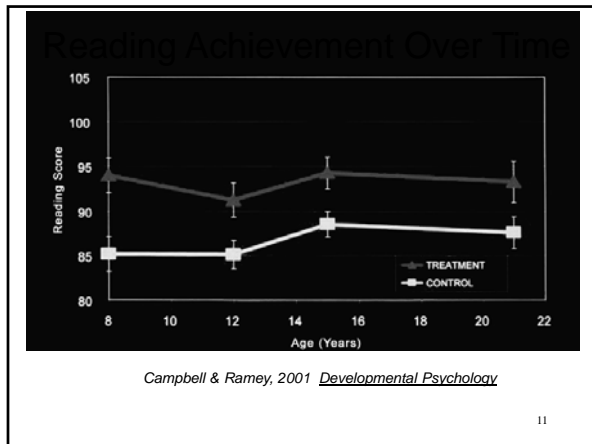
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**SLR1** Key Findings from Abecedarian Project  
*("Abecedarian" ...one who learns the basics such as the alphabet)*  
 18 Months to 21 Years Old

<ul style="list-style-type: none"> <li>• Intelligence (IQ)</li> <li>• Reading and math skills</li> <li>• Academic locus-of-control</li> <li>• Social Competence</li> <li>• Years in school, including college</li> <li>• Full-time employment</li> </ul>	<ul style="list-style-type: none"> <li>• Grade Repetition</li> <li>• Special Education placement</li> <li>• Teen Pregnancies</li> <li>• Smoking and drug use, depression</li> </ul>
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*Plus benefits to mothers of these children (education, employment)*  
*Ramey et al, 2000*

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### Replication and Scale-Up of Abecedarian Project in 10 sites

- Adapted to fit needs of other high-risk groups of children
- Conducted in 10 different cities with large differences in population, policies, practices
- Guided by common educational curriculum and rigorous initial and ongoing PD
- Relied on detailed information gathering and analysis to obtain and sustain "fidelity of implementation"

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**Slide 12**

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**SLR1** Sharon Ramey, 12/5/2008

## PD for 8-site Infant Health and Development Program (IHDP)

- Initial intensive structured PD for 2 weeks (80 hrs) in group format
- Lead teachers with early childhood degrees
- Monthly PD for next 3 years
- Daily documentation of implementation with weekly supervisory PD feedback

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## Major results of 8-site Infant Health and Development Program (N=985)

- Full implementation was achieved at all sites
- Weekly review and PD were very important to maintain high quality
- Benefits of the ABC curriculum and the ABC PD were demonstrated in all 8 sites
- Low birthweight and premature infants benefit from same ABC program and “The Seven Learning Essentials”

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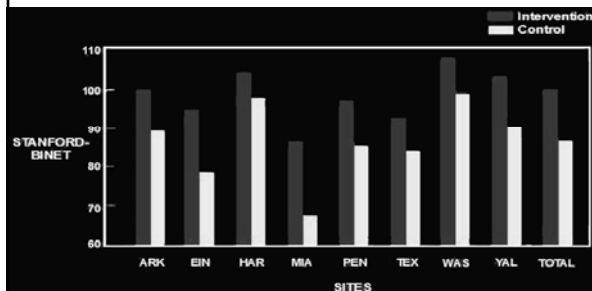
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## Stanford-Binet IQ Scores at 36 Months Heavier LBW Group (2001-2500gm)

*Infant Health and Development, JAMA, 1990 Ramey, AAAS, 1996*



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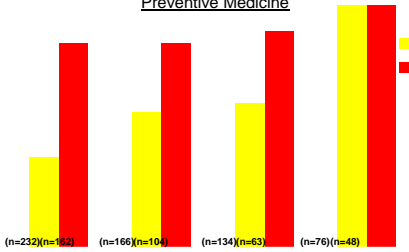
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**The Infant Health and Development Program:  
IQ benefits are largest for children whose  
mothers have least educational attainment**

Ramey & Ramey (1998),  
*Preventive Medicine*



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**Long-term benefits of Infant  
Health and Development Program**

- Improved academic outcomes through age 18
- Benefits directly related to dosage (intensity) or level of participation (after controlling for demographic variables)
- Children at greatest risk showed highest level of benefits over time

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**Part 2**

Current appraisal of what is happening in early childhood education and care:

*How well are we putting research findings into action?*

*What does it take to realize benefits for children?*

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## Public awareness/Public will

- Early childhood education is a national priority
- The “economic case” has been compelling about potential return on investment (ROI)
- The “neurobiological case” supports early education to ensure good brain development
- Increasing levels of legislative and funding initiatives for early childhood programs

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## How well are the new early education programs doing?

- Many efforts have not achieved intended benefits; many show no or very small measurable benefits
- Greatest problem is achieving program implementation at intended levels

We are concerned there may be a backlash based on disappointing results, *particularly in tough economic times*

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## What accounts for low levels of implementation?

- Lack of sustained and engaged leadership at the highest levels to promote full implementation of high quality programs
- Lack of effective types and levels of professional development (PD) for key staff
- Lack of systematic data collection about implementation to help drive-up quality of programs and take early corrective actions (public accountability)

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## Part 3

Toward a science of professional development:

Strategies to develop and sustain a competent workforce in early childhood education

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### PD Strategies in Early Childhood Education and Care

- Workshops on specific topics
- Scholarships to earn training certificates or more advanced degrees
- Specialists and coaches who visit classrooms to help with particular subject
- Teacher peer learning groups
- Consultation models
- Self-learning and self-reflection on practices

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### What is known about effectiveness of these PD strategies?

- Most PD is not evaluated in terms of impact on practice or child outcomes
- Correlational studies have not shown clear benefits of workshops, earned degrees or certificates, or area of specialization
- Experimental studies recently are finding measurable benefits of
  - expert onsite, structured coaching
  - intensive interactive workshops

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## Important issues in field of PD

- PD should focus on what promotes child benefits
- PD must be tailored to participants (experience, knowledge, attitudes and beliefs, and performance)
- PD must consider factors likely to facilitate or impede changes in classroom practices
- PD approaches should emphasize practice and how to put new knowledge into action

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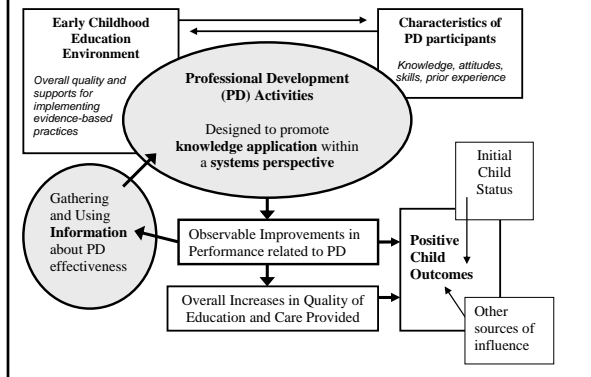
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## KAIS Theory of PD (Ramey & Ramey, 2007)




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## Applications of the KAIS PD Model

- Leaders in Literacy Study: compared once a week versus once a month coaching; also compared half versus full year
- The RITE Study: compared 6 interactive workshops versus 20 days of Immersion Training 18 months at these 2 dosage levels
- The Literacy Curriculum Coaching Study: compared once a week versus once a month for half versus full year

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## Leaders in Literacy Study Design

- Conducted in private centers and Head Start centers (later extended to pre-K school classrooms)
- Randomized controlled trial (RCT) with unbiased assessment of classrooms and children
- Leaders in Literacy program included several all-day interactive workshops, literacy instructional kits, and coaching from specially trained teachers
  - once a week coaching
  - once a month coaching

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## Key Findings from the Leaders in Literacy Study

- Knowledge Application - strong emphasis on what improves children's outcomes and proven practices
- Information – teachers had very low levels of initial competency, attitudes often opposed new practices
- Systems – center directors were key in helping promote changes and application of evidence-based practices
- No benefits detected in half year; but small to modest benefits in full year

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## The RITE Study Design

- Built upon findings from Leaders in Literacy Study
- Increased the dosage of coaching condition *tremendously* to answer the question “*Can large and lasting gains occur in low resource settings where adults do not effectively promote learning?*”
- Directly compared workshop vs demo-coaching
- Randomized controlled trial (RCT)
  - Licensed child care settings
  - Unregulated family care settings

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## Description of the “Right from Birth” PD Intervention

- Built upon 2 public TV series based on research findings about how to promote children’s learning and positive development (*Right from Birth* and *Going to School* were companion guides)
- Focused on daily provision of The Seven Learning Essentials (Ramey & Ramey, 1990, 1999)
- RITE DEMO-COACHING involved frequent expert demonstration, intensive practice, and learning activities all day as natural, part of play – 20 full-days of side-by-side coaching in 4 – 6 wks
- WORKSHOP SERIES involved same content, included demonstrations, Q and A, interactive exercises - provided in 6 ½ day or 3 full-day sessions

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## Key findings from The RITE Study

- Both the Workshops *and* the 20-day RITE Immersion PD produced changes
- The 20-day RITE Immersion produced *far larger benefits* than did the Workshops
- Improvements were maintained *and sometimes even enhanced* up to 1 year later
- Children’s language development benefits (+12 pts) detected *only* in centers that received the 20-day RITE Immersion PD

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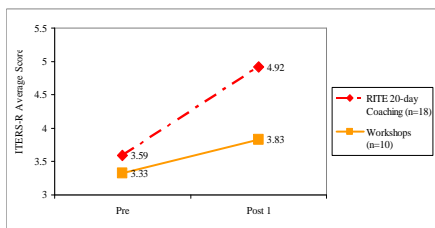
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## Center Providers: Environmental Rating Scores (pre/post)



### Mean Gain Scores from Pre to Post

RITE 20-day Coaching = 1.33 (±0.58) **EFFECT SIZE = 2.3**

Workshops = 0.50 (±0.43) **EFFECT SIZE = 1.2**

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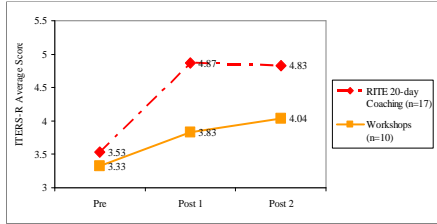
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### Center Providers: ITERS Scores (pre, post 1 and 2)



**Mean Gain Scores: Pre to Post 1 & Pre to Post 2**

**RITE 20-day Coaching = 1.34 (±0.59), 1.30 (±0.61)**

**Workshops = 0.50 (±0.43), 0.71 (±0.64) *p*<.01**

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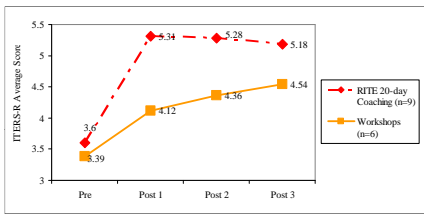
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### Center Providers: ITERS Scores (pre, post 1, 2, & 3)



**Mean Gain Scores: Pre to Post 1, Pre to Post 2, Pre to Post 3**

**RITE 20-day Coaching = 1.71 (±0.46), 1.68 (±0.50), 1.58 (±0.64)**

**Workshops = 0.73 (±0.30), 0.97 (±0.72), 1.15 (±0.76) *p*<.01**

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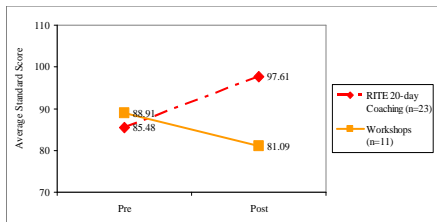
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### Center Providers: Children's PLS 4 Language Scores (12 mos. later)



**Mean Score Changes from Pre to Post 1**

**RITE 20-day Coaching = + 12.13 EFFECT SIZE = 0.94**

**Workshops = -7.82 EFFECT SIZE = -0.78 *p*<.01**

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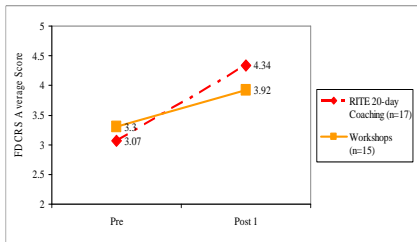
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### Family Home Providers: Environmental Rating Scores (pre/post)



#### Mean Gain Scores from Pre to Post 1

RITE 20-day Coaching = 1.27 ( $\pm 0.68$ ), EFFECT SIZE = 1.9

Workshops = 0.62 ( $\pm 0.35$ ) EFFECT SIZE = 1.8  $p < .01$

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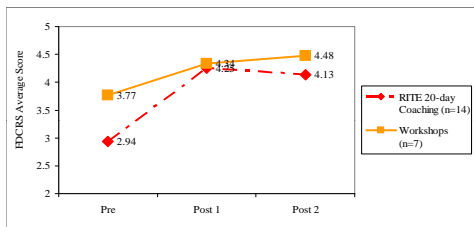
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### Family Home Providers: FDCRS Scores (pre, post 1 and 2)



#### Mean Gain Scores: Pre to Post 1 & Pre to Post 2

RITE 20-day Coaching = 1.31 ( $\pm 0.68$ ), 1.19 ( $\pm 0.66$ )

Workshops = 0.57 ( $\pm 0.31$ ), 0.71 ( $\pm 0.24$ )  $p < .01$

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### Design of the Literacy Curriculum & Coaching Study

- 24 randomly selected pre-K classrooms from entire school district
- Classrooms (1 per school) randomly assigned to:
  - BLL Curriculum Coaching (weekly vs monthly) or
  - Comparison condition
- Both classrooms and children assessed pre and post (by independent unbiased assessors)

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## Purpose of The Literacy Curriculum & Coaching Study

- To test efficacy of an evidence-based curriculum – Building Language for Literacy (BLL) (Neuman & Snow; Scholastic)
- To determine the PD dosage needed to produce high levels of curriculum implementation
- Unique design because comparison classrooms had same BLL as part of district curriculum (some PD a few years earlier)

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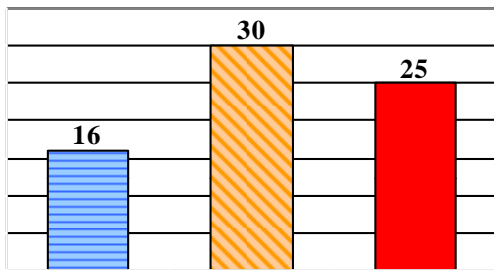
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### BLL Fidelity of Implementation Scores



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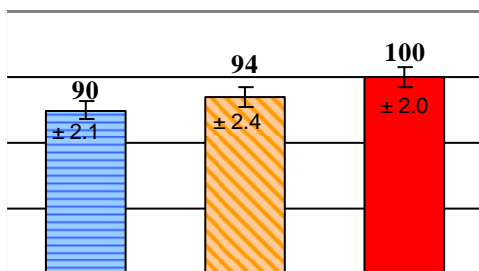
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### Mean ELLCO Scores



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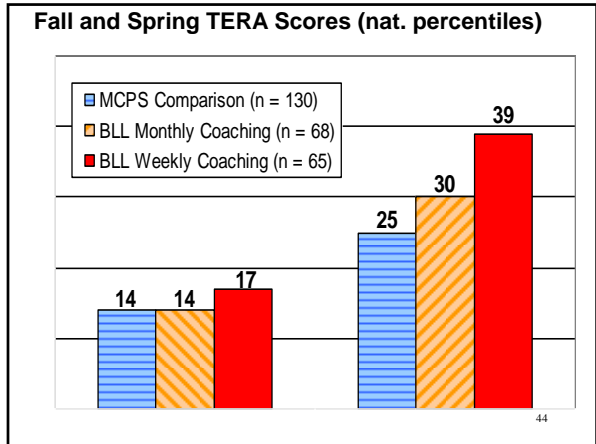
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- What We are Learning from PD Research in Early Childhood**
- Unlikely that implementation levels are high without systematic PD
  - More intensive (higher dosage) PD generally yields greater benefits; very low dosage may not produce any measurable benefits
  - Dosage of PD needed likely to depend on
    - Initial knowledge and skills of PD participants about particular evidence-based practices
    - Systems level supports for implementing evidence-based practices
    - Complexity of practices and child-needs

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- Can we afford ...**
- To insist on and expect high quality early education programs for all at-risk children, birth to school entry?
  - To offer effective, ongoing, and “right-dosage” professional development for all key staff, including administrators?
  - To set up information systems that provide useful, reliable data about classroom instructional activities, adult-child interactions, and health and safety practices, and program-family communication and collaboration?

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## YES WE CAN!

- Current allocations for many early childhood education programs are comparable to the “hothouse programs” that produced large and lasting benefits
- Large investments in professional development already occur, but often activities are scattered, not monitored, and likely ineffective
- Substantial systemic changes and high level leadership support are needed to re-direct efforts, realize efficiencies, and gather useful information about PD effectiveness

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## The District of Columbia Partnership for Excellence

- Focus on using effective PD strategies to increase language and literacy of 4 yrs olds
- 120 classrooms (private centers, Head Start, public pre-K, public charter pre-K)
- Rigorous test of KAIS Model with both workshops and weekly structured Demo-coaching; spacing of PD compared
- Active monitoring of classroom practices
- Teachers, TAs, and children assessed both pre and post

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## Progress to date

- High receptivity to receiving the KAIS PD, but individual teacher receptivity to change highly mixed
- Teachers and Assistants show increased knowledge from workshops
- Demo-Coaching in classrooms results in many changes in teaching team: more learning activities, curriculum implementation, and language interactions with children
- Challenges much greater in some settings
- Results comparing dosage and density of Demo-Coaching will be available by end of 2010

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**The totality of a child's  
experience lays the foundation for  
a lifetime of greater or lesser  
competency, health, and  
happiness**

Ramey & Ramey, *Right from Birth* (1999)

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### Select key references for talk

- Ramey, Ramey, & Lanzi (2006) Children's health and education (in The Handbook of Child Psychology)
- Ramey & Ramey (2007) KAIS Theory of Professional Development
- Ramey & Ramey (1999) Going to School
- Ramey & Ramey (1999) Right from Birth
- Ramey & Ramey (1994) Early learning and school readiness, Merrill-Palmer Quarterly
- Ramey & Ramey (2006) The transition to school

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For more information or copies of  
references, please contact:

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