Translating Early Childhood Research to Practice:
Focus on School Readiness

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Kindergarten, Circa 1960
Adjusting to school: Show-and-tell, play-time, nap-time, story-time
Kindergarten, Circa 2010

Learning to Read:

Students will know about letters, words, and sounds. They will apply this knowledge to read simple sentences.

Kindergarten Learning Standards State of California, 2009
Accelerated Early Learning Expectations: Implications for Early Childhood Research and Practice

- **The hope**: Greater attention to early learning will promote high-quality programs and practices that will address early learning delays by promoting competencies and thereby reduce the substantial and persistent achievement gap associated with poverty.

- **The fear**: A focused attention on early school achievement outcomes will undermine developmentally appropriate early learning practices and increase the achievement gap by targeting content without sufficient attention to developing learning skills and processes.
Key Research Questions for School Readiness Research and Practice

Can we reconcile the goals of instructional approaches:

1) Designed to promote content knowledge in literacy/math, with teacher-directed lessons & systematic practice activities VS.

2) Focused on promoting motivated, socially-connected, self-regulated, goal-oriented learning, with child-directed, spontaneous, guided discovery?
Goals of this Presentation

1) Describe research on the developmental foundations of “readiness to learn” and the developmental impact of poor quality early learning experiences

2) Review research on “what works” in early childhood education and intervention

3) Consider the implications for policy and practice, especially for promoting school readiness among children growing up in poverty
Why focus on children living in poverty?

- High prevalence: 21% (1 in 5) children in the US live in poverty.

- Long-term impact on school success and beyond:
  - SES achievement gap at school entry widens over time
  - 50% drop out of high school (vs 10% nationally)
  - Corresponding risk for young adult unemployment (55% vs. 81%); and 3.5 times the risk for incarceration

- Hope that effective, high-quality early education can reduce this gap, with child & societal benefits
Goal 1

- Describe research on the developmental foundations of “readiness to learn” and the developmental impact of poor quality early learning experiences
Early disadvantage & adversity delays cognitive readiness for school

- **Attention skills**
  (Sustaining attention, following instructions)

- **Language skills**
  (Vocabulary, grammatical understanding)

- **Memory skills**
  (Working memory, memory)

- **Delays in emergent literacy & math skills**
Early disadvantage & adversity delays behavioral readiness for school.

- Poor impulse control    
  (acting before thinking, difficulty waiting for turn)
- Emotion dysregulation    
  (irritability, negative reactivity)
- Disruptive-oppositional  
  (poor social skills)
- At school entry, 17 – 21% have behavior problems that warrant mental health referrals
Developmentally Linked in Early Childhood: Cognitive & Behavioral Self-Regulation

- What is expected at age 2-3…

- Diminishes with developing self-control (ages 3-7)
- Learning experiences & individual differences affect pace
By School Entry, Kindergarten Teachers Expect…

- Interest in learning (76%)
- Can follow directions (60%)
- Is not disruptive in class (60%)
- Is sensitive to others’ feelings (58%)
- Takes turns and shares (55%)
- Pays attention (42%)

National Center for Educational Statistics: KTSSR 1993
Pre-frontal Cortex Development
Rapidly developing ages 3-7

Executive Control:
- Working memory
- Inhibitory control
- Attention flexibility

Key Competencies
- Getting Along With Others
- Engaging in Learning Tasks
- Following Rules
- Anger Management
- Managing conflicts
- Problem-solving
Developmental Roots of Self-Regulation are in Social Interaction

- **With Parents...**
  - Attachment processes
  - Joint attention & sensitive responding

- **With peers ..**
  - Social imitation & reciprocity
  - Negotiation & collaboration
Developing self-regulation is impaired by:

- Insecurity & unpredictability
- Stress & threat
- Crowding
- Lack of sensitive-responsive language

.. Which are characteristics of poor learning environments, associated with early disadvantage & adversity
Weak Executive Control & Emotional Distress

Emotional Distress – “Hijacks” thinking; fuels self-protective behavior
At School Entry: A Negative Cascade with Increased Stress

- Poor Self-Regulation
  - Inattention
  - Hyperactivity
  - Impulsivity

- Demoralization, Anxiety, Loneliness, Frustration, Anger, Boredom

- Learning difficulties & interpersonal conflict
High Quality Preschool Experiences Can Prevent or Reduce this Negative Cascade

- Some programs and practices are more effective than others.

- Evaluation research, particularly using randomized designs, identify effective programs and practices.
Dual Preschool Priorities to “Close the Gap” in School Readiness

- Enhance instructional support to promote emergent literacy & math skills (cognitive readiness)
- Enrich emotional support for positive socialization & motivated, goal-oriented learning (behavioral readiness)
Goal 2

- Briefly review research on “what works” in early childhood education and intervention
What Works:
Research-based Preschool Practice

1. **High-quality Curriculum**
   - Language & emergent literacy
   - Emergent math

2. **High-quality Teaching Practices**
   - Instructional & emotional support
   - Support for self-regulatory development
High Quality Curriculum:  
Intentional vs. Incidental Instruction

Child-driven, incidental learning is of value, but not sufficient to “close the gap”

Intentional instruction, based on an organized curriculum that provides learning activities with scope and sequence to teach skills in a particular content area adds value.
Complex Skill Acquisition Builds upon Components: Strands of Literacy Development

**Comprehension**
- Background Knowledge
- Vocabulary
- Grammar
- Verbal Reasoning
- Literacy Knowledge

**Decoding**
- Phonological Awareness
- Alphabetic (Phonics)
- Sight Words

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**Skilled Reading**

**Early Childhood**

**Emergent Literacy**

**Conventional Literacy**

**Upper Elementary**
Skill Acquisition Requires Repeated Practice

Incidental exposure is often insufficient to drive acquisition.

Repeated exposure with multiple, distributed practice opportunities are required.
Improve Curriculum Quality for Emergent Literacy

- Empirically-effective emergent literacy programs:
  - Improve oral language skills with dialogic/interactive reading
  - Teach phonological awareness
  - Teach print concepts including letter knowledge
Improve Curriculum Quality for Emergent Math

- **Empirically-effective emergent math programs:**
  ⊱ Use small group learning activities to foster core math concepts and reasoning, including enumeration and number sense, arithmetic reasoning, spatial concepts, classification
Concern: Avoid the “push down” of elementary teaching styles; promote active engagement with developmentally-appropriate learning centers and activities, instructional and emotional support.
Classroom Organization & Teacher-Student Relationships

*Classroom Assessment Scoring System* (CLASS; LaParo & Pianta, 2003)

- **Emotional Support:**
  - Positive, warm climate
  - Sensitive responding to child needs and behaviors
  - Proactive and supportive behavior management

- **Instructional Support:**
  - Organized, engaging learning formats
  - Rich language use and feedback quality
  - Promoting child concept development & understanding
Enriching Support for Self-Regulatory Development

Range of approaches:

1) Positive & predictable behavior management
   (Ex: Incredible Years Teacher Training)

2) Explicit social-emotional lessons & support
   (Ex: Preschool PATHS)

3) Embedded structures, activities & scaffolds
   (Ex: Tools of the Mind)
Incredible Years Teacher Training:
Focus on Positive Classroom Management

1. Support positive behaviors with teacher attention, encouragement, praise, incentives.

2. Prevent behavior problems with proactive planning & routines.

3. Decrease students inappropriate behaviors with clear limit-setting.

Preschool PATHS
Promoting Alternative Thinking Strategies

Lessons & Activities:
1. Emotional understanding
2. Friendship skills
3. Intentional self-control
4. Social problem-solving
Teacher scaffolding, play plans
Dramatic collaborative play
Cooperative paired learning
Inhibitory control games
Evidence for Synergism: Preschool PATHS plus…

<table>
<thead>
<tr>
<th>Head Start REDI Language &amp; Literacy Curriculum</th>
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<tbody>
<tr>
<td><strong>Decoding</strong></td>
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<tr>
<td>Alphabet Center</td>
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<td>Letter identification</td>
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**Comprehension**

- Vocabulary, Grammar
- Vocabulary, Grammar
Head Start REDI Evaluation Design

- 356 4-year-old children in 44 Head Start classrooms

- Classrooms stratified on location, demographics, length of day & randomized to intervention or “usual practice”

- Assessments at the beginning and end of the Head Start pre-kindergarten year.

- 94% completed follow-up assessments (in 204 kindergarten classrooms)
Developmental Cross-over Facilitation: Behavioral and Cognitive School Readiness

- Growth in Vocabulary
- Growth in Emergent Literacy
- Growth in Social Competence
- Growth in Learning Engagement

Kindergarten Letter-Word Identification

REDI project data, in preparation
Developmental Cross-over Facilitation: Content Learning and Approaches to Learning

REDI project data, Journal of Educational Psychology
Goal 3

- Consider the implications for policy and practice, especially for promoting school readiness among children growing up in poverty
High-quality Curricula and Beyond…

- Exposure to systematic learning activities organized with a developmental scope and sequence improve the acquisition of cognitive skills
- The acquisition of self-regulated learning benefits from supportive, responsive, and communicative adult-child interactions and positive peer experiences
Invest in Professional Development

- Single workshop model is insufficient
- Additional strategies:
  - Mentoring and ongoing support
  - Web resources
  - Videotape feedback & reflective practice
- Importance of administrative leadership:
  - Supporting quality practice in supervision & performance evaluation assessment
Reaching out to Parents

- To inform
- To involve
- To extend child learning opportunities & support

Research-based Examples:

- Home visiting to promote language & cognitive skills
- Dialogic reading to promote language skills
- Behavioral parent training to promote positive interaction and discipline practices
Take Home Points

- Focus on the dual domains of school readiness: cognitive & behavioral
- Enrich curriculum, use intentional instruction to foster emergent literacy & math skills
- Promote high-quality teaching practices: instructional & emotional support
- Add focused efforts to promote self-regulation
- Use strong professional development models & provide administrative support
Questions & Comments