



# Thinking Across Broad Domains: Integrating Curricula and Instruction



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# The Legacy of Early Studies and Today's Challenge: Beyond Perry Preschool and Abecedarian

- Longitudinal studies demonstrated the substantial and long-term benefits of intensive, comprehensive early schooling - compared to nothing.

Now, we need to focus on a different set of questions:

- How do we enhance Head Start to maximize the benefits – compared to usual practice?
- How do we go to scale – improving accessibility and fidelity of enhanced practice?
- How do we update Head Start tradition and regulatory review to incorporate these changes?

# Updated Research Findings

## For children growing up in poverty

Model programs used well-trained professionals, guided by a framework of “developmentally-appropriate” educational strategies, which also encouraged individualized programming.

Recent research suggests:

- Articulated curricula out-perform general frameworks
- Intentional instruction out-performs incidental exposure
- Guided and experienced-based professional development (coaching) out-performs lecture-workshops and formal education
- A dual preschool focus is needed targeting cognitive and social-emotional skills



# Poverty (and early adversity) is associated with lower 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



# Poverty (and early adversity) is associated with lower 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

# 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)



# High Quality Preschool Experiences Can Improve Upon “Usual Practice”

- Some programs and practices are more effective than others.
- Evaluation research, particularly using randomized designs, identify effective programs and practices.



# What Works: Evidence-based Preschool Practice



## 1. High-quality Curriculum

- ◆ Language & emergent literacy
- ◆ Emergent math
- ◆ Social-emotional skills

## 2. High-quality Teaching Practices

- ◆ Instructional & emotional support
- ◆ Enriched language use
- ◆ 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.

# 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

Examples: *REDI Sound Games, Interactive (Dialogic) Reading, Literacy Express, Doors to Discovery, DLM Early Childhood with reading*



# 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

Examples: *Pre-K Mathematics, Building Blocks for Math*



# Improve Curriculum Quality for Social-Emotional Development

## ■ Empirically-effective social-emotional enhancements:

Positive & predictable behavior management  
*Incredible Years, Chicago School Readiness*

Explicit social-emotional lessons & support  
(Ex: *Preschool PATHS, REDI*)



Compliment List	
From My Teachers:	
From My Friends:	
From Myself:	
Other Family Members:	



## High-Quality Teaching

- Curriculum-based, systematic learning activities can be hands-on, engaging and fun for children, supported by high-quality teaching
- Behavioral readiness and self-regulated learning depends upon supportive, responsive, and communicative adult-child interactions and positive peer experiences

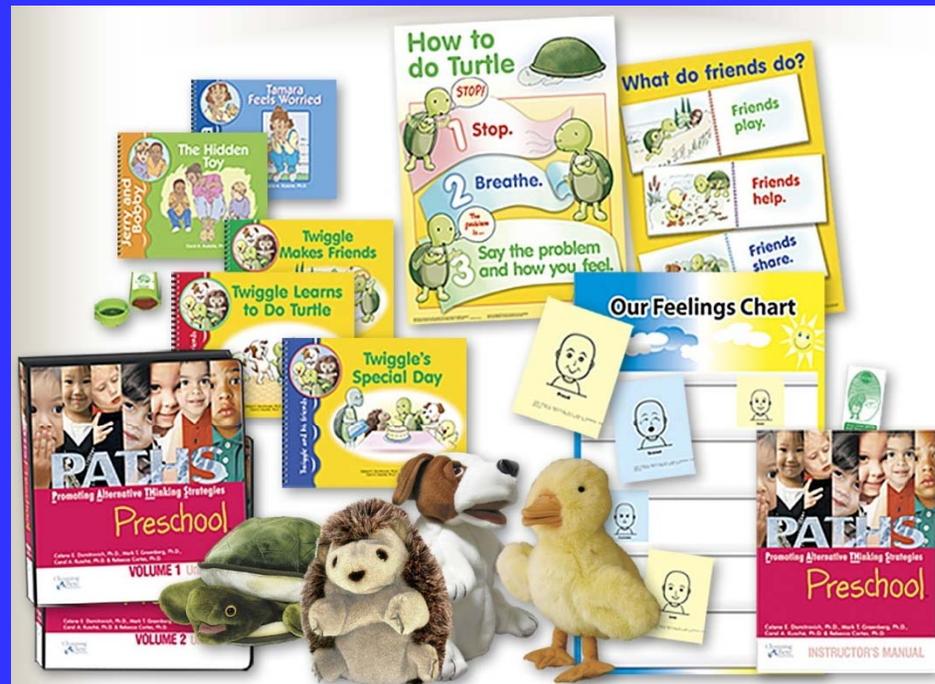


# REDI Research Design

Interagency School Readiness Consortium - NICHD

- 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.
- Follow-up assessments: Teacher ratings of adjustment, Kindergarten through Grade 3

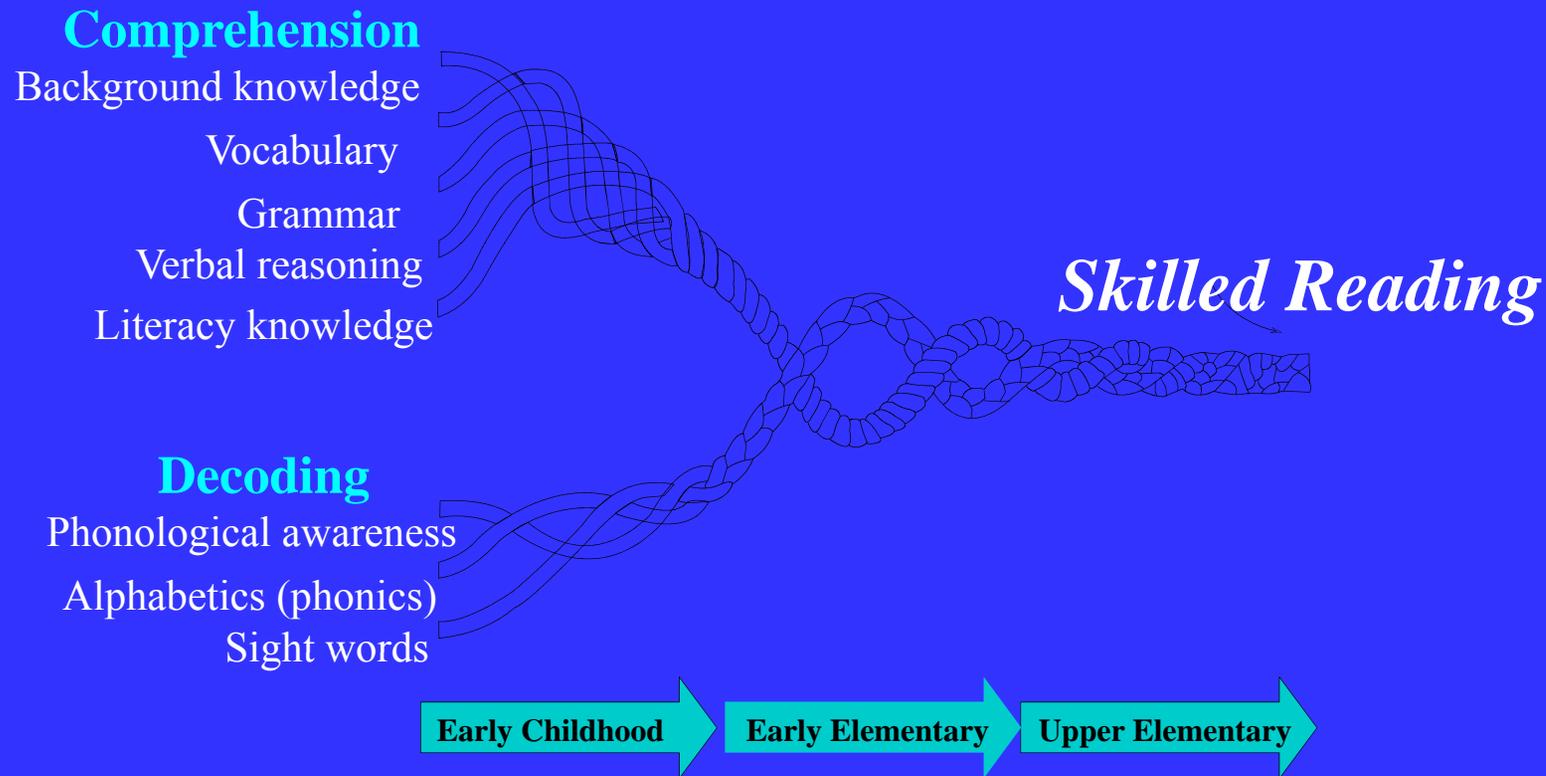
# Social-Emotional Skills: The Preschool PATHS Curriculum Domitrovich, Greenberg, Kusche & Cortes (2005)



- ◆ Friendship skills
- ◆ Emotion knowledge

- ◆ Intentional self-control
- ◆ Social problem-solving

# Language and Emergent Literacy Skills



# REDI Language & Emergent Literacy Components

- Daily dialogic (interactive) reading
  - ◆ Vocabulary prop box & target words
  - ◆ Scripted suggestions for active discussion
  - ◆ Interface with PATHS themes

- Sound games (3X/week)



- Alphabet Center



## Intervention Effects on Head Start Teaching Quality

Teaching Quality	Effect	P-Value
■ Positive Emotional Climate (TSRS)	.42	.05
■ Emotional Support (CLASS)	.49	.11
■ Positive Class Management (TSRS)	.40	.06
■ Positive Discipline (TSRS)	.66	.002
■ Instructional Support (CLASS)	.54	.08

Teacher Language Use	Effect	P-Value
■ Statements (CLEO)	.72	.001
■ Questions (CLEO)	.77	.001
■ Decontextualized Talk (CLEO)	.62	.001
■ Rich-sensitive Talk (CLEO)	.62	.004

# Summary of Pre-K Child Outcomes: Small to Medium Cross-Domain Effects

- Social Competence: ES = .24<sub>teacher</sub> .26<sub>obs.</sub>
- Aggression: ES = .28<sub>teacher</sub> .19<sub>obs.</sub>
- Learning Engagement: ES = .17<sub>teacher</sub> .29<sub>obs.</sub>
- Vocabulary: ES = .15
- Phonemic Sensitivity: ES = .39<sub>Blend.</sub> .35<sub>Elision</sub>
- Print Awareness: ES = .16

## Unpacking Effects: Child Benefits Associated with REDI Curriculum and High-quality Teaching Practices (CLASS)

	REDI with High-Quality Teaching	“Usual Practice” w/ High-Quality Teaching	REDI with Lower-Quality Teaching
Vocabulary	.13+	-.07	.03
Emergent Literacy Skills	.37***	.03	.37**
Emotion Recognition Skills	.28*	.06	.17
Social Problem-Solving Skills	.35*	-.02	.33
Social Competence - observed	.39*	.32	.45+
Aggression - observed	-.36+	-.46*	-.49+

Comparison Group is “Usual Practice” with Low-Quality Teaching

# Kindergarten Follow-Up Assessment: Teacher-Rated Behavior

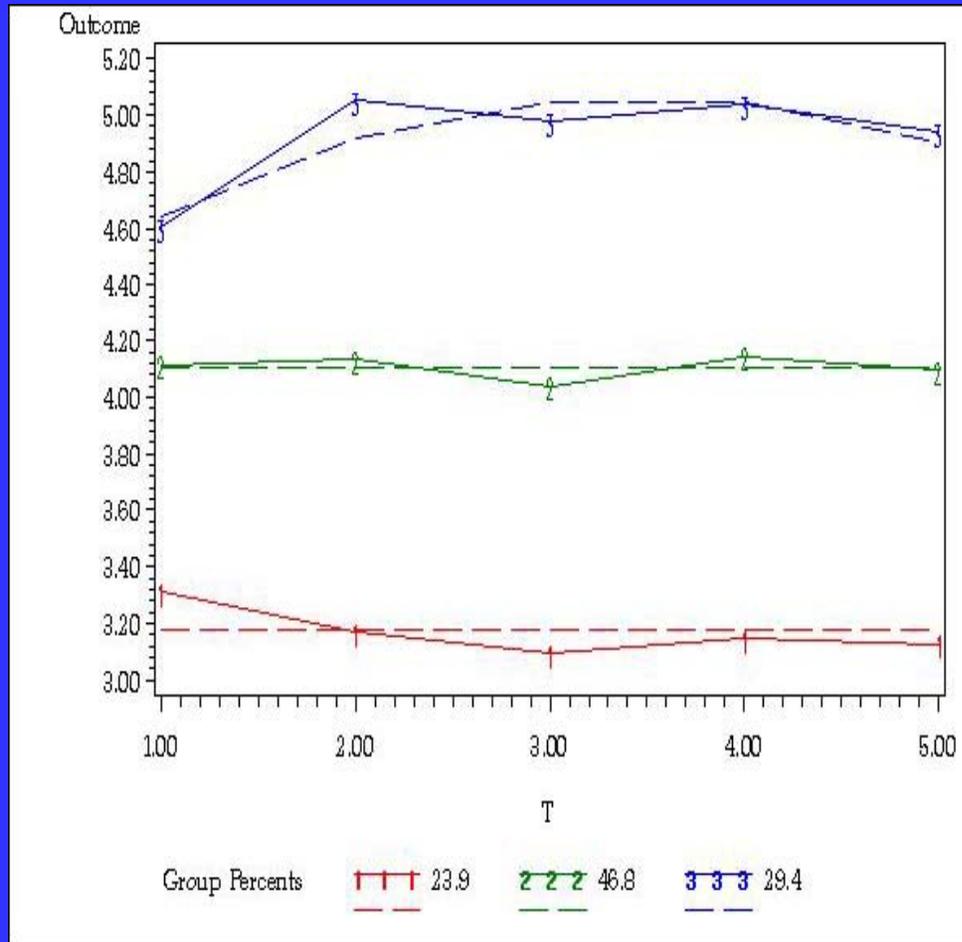
Social Competence	.32**
Aggression	-.25*
Learning Engagement	.20*
Student-Teacher Relationship	.28*

Main effects on vocabulary and emergent literacy skills  
were not maintained in kindergarten.

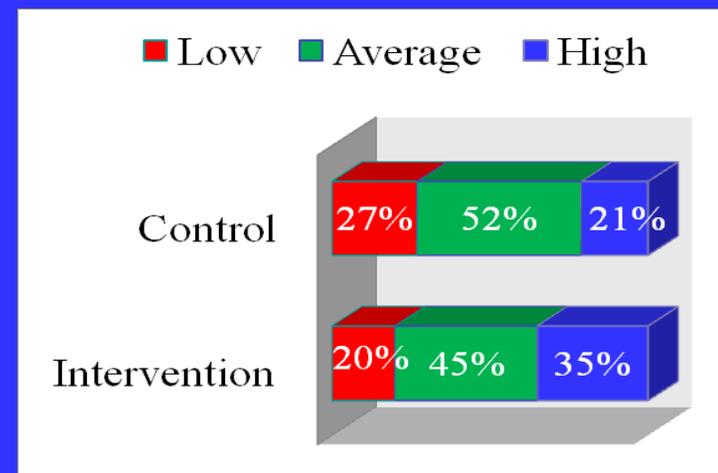
# Trajectory Analyses Through Grade 3

- Analyses used teacher ratings from 5 time periods: 1) end of pre-kindergarten, 2) kindergarten, 3) first grade, 4) second grade, and 5) third grade.
- Latent class growth analysis identifies groups of children with distinct developmental trajectories (Nagin, 2005).
- Given random assignment, differential representation in the trajectories associated with REDI intervention can be interpreted as sustained intervention effects.

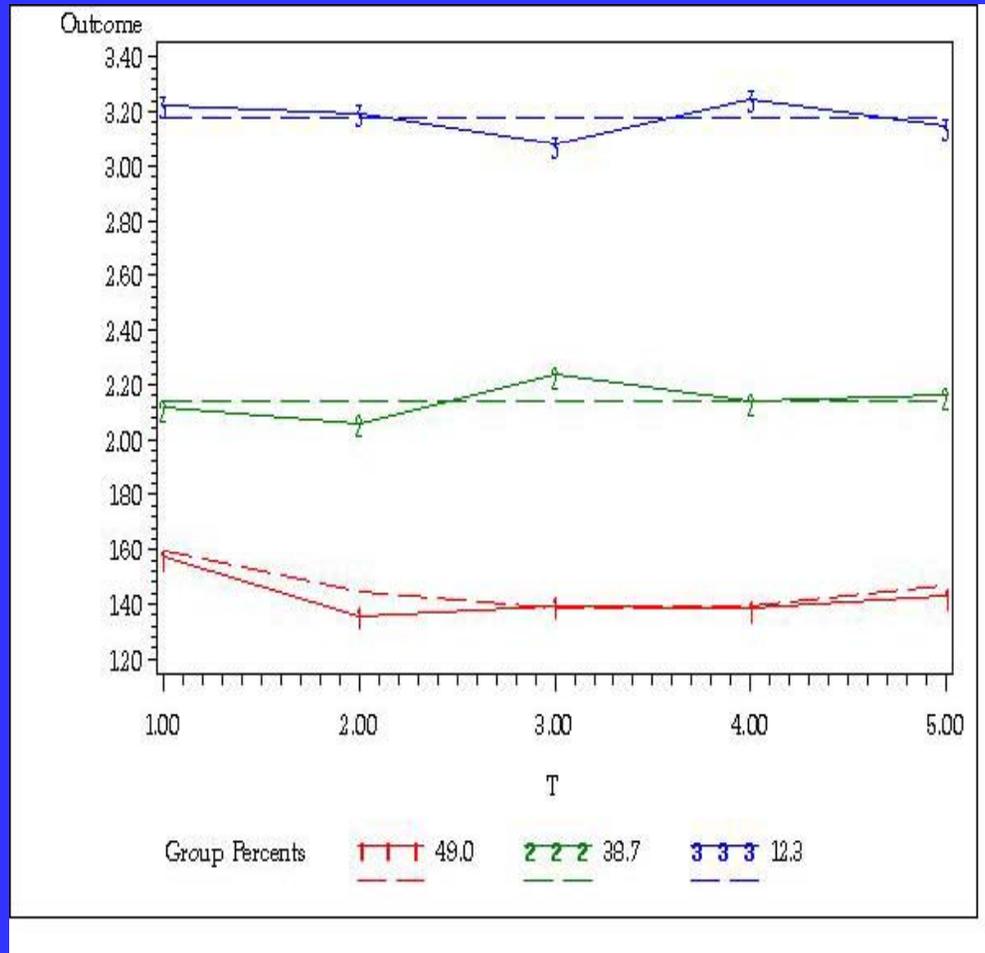
# Social Competence



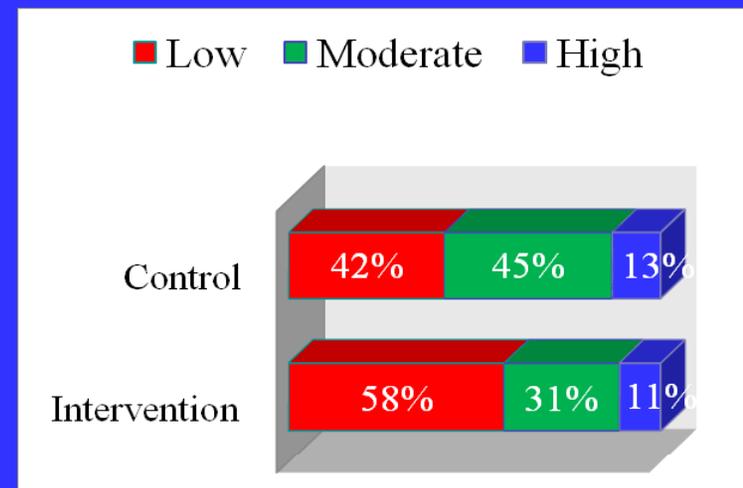
Intervention increases likelihood (OR = 2.63) of being in high-increasing trajectory (I = 35% vs. C = 21%) compared to low-stable trajectory (I = 20% vs. C = 27%).



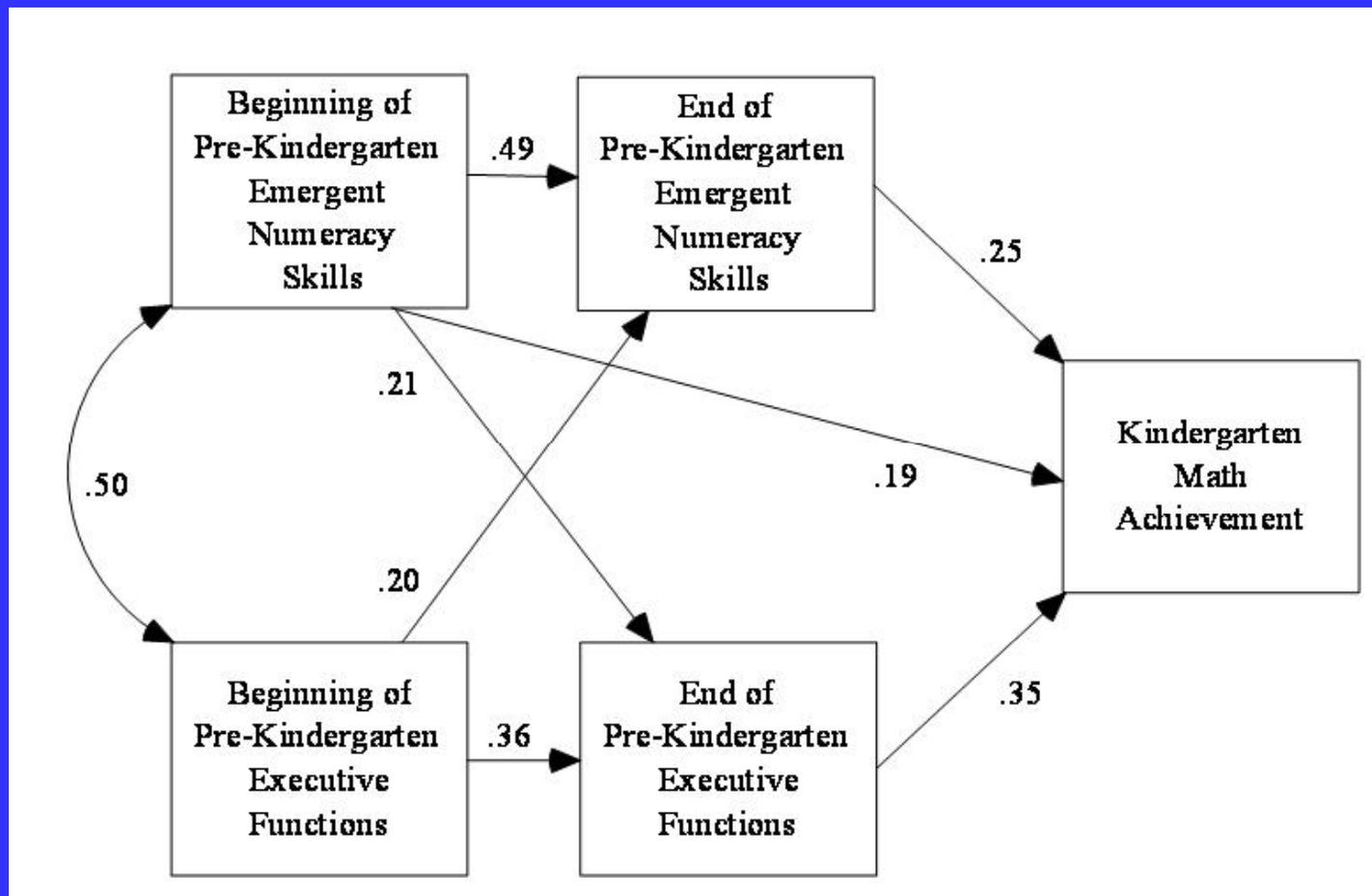
# Aggressive Behavior



Intervention increases likelihood of being in the low-decreasing trajectory (I = 58% vs. C = 42%) vs. the moderate-stable trajectory (I = 31% vs. C = 45%).

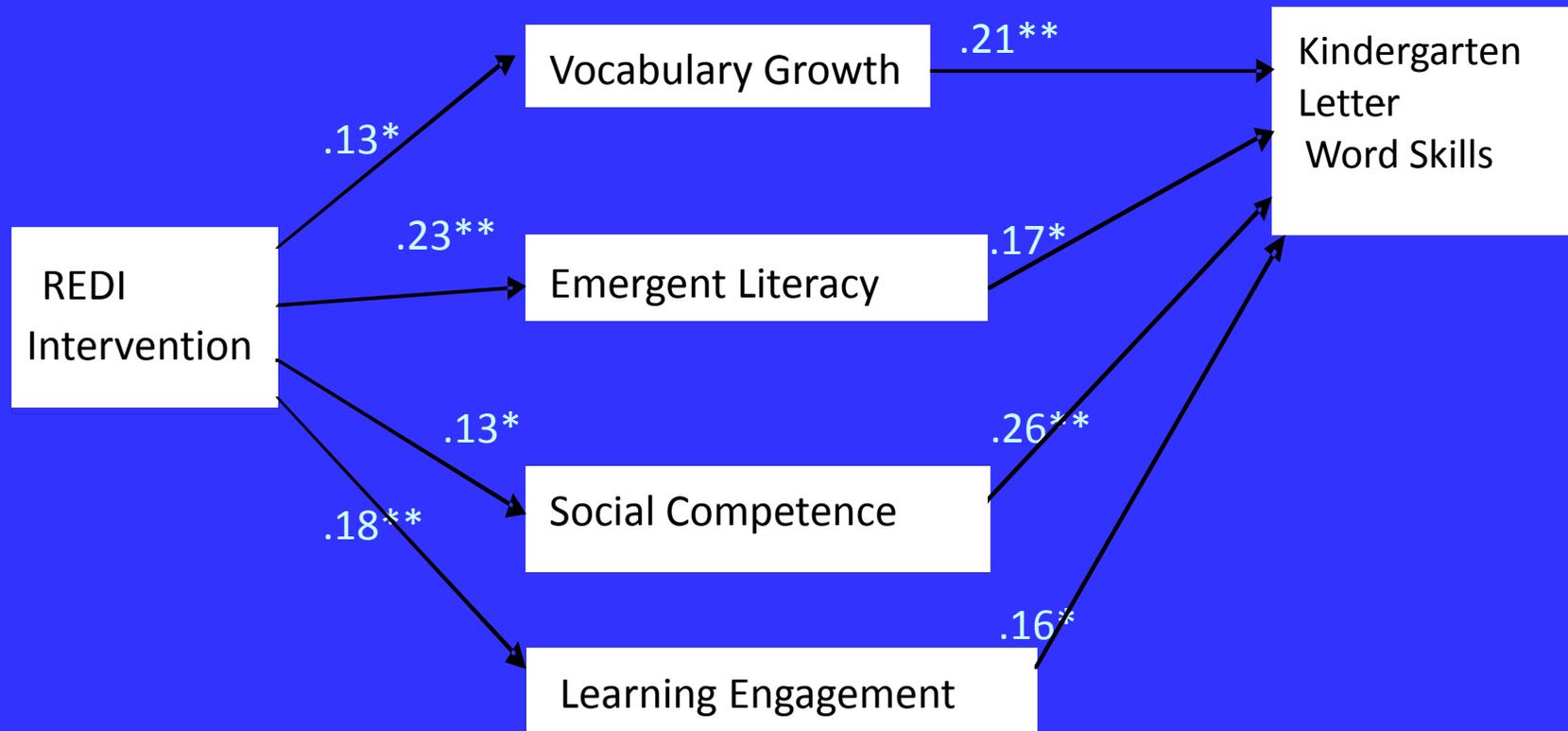


# Developmental Cross-over Facilitation: Content Learning and Approaches to Learning

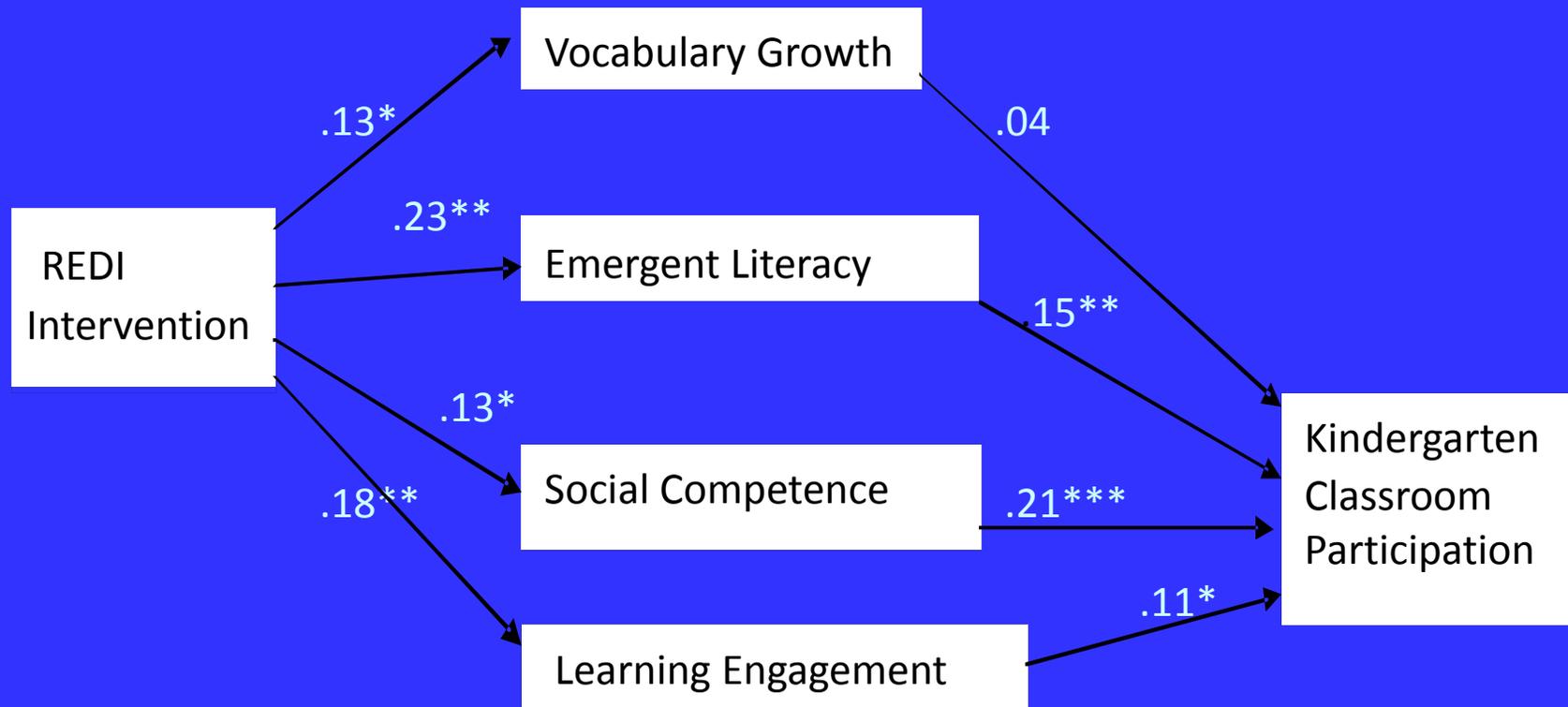


Welsh et al, Journal of Educational Psychology, 2010

## Path Analyses: Head Start Growth to Kindergarten Outcomes



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## REDI Sustained Use

Ratings of sustained use were completed by coaches, teachers, and interviewers one year after end of research trial.

- PATHS: 90%-100%
- Dialogic Reading: 50% - 60%
- Sound Games & Alphabet: 60% - 75%

# Teacher Interviews: Top Reasons for Sustaining or Not Sustaining REDI

- Teacher feels REDI benefits children: 100%
- Students are engaged & learning skills: 85%
- REDI helps teachers improve teaching: 85%
  
- REDI conflicts with Head Start requirements: 70%
- Not enough time to do REDI: 50%
- REDI is not developmentally appropriate: 50%



## Conclusions



- 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**

# Challenges

- Explore and understand why evidence-based programs are diffusing so slowly in Head Start
- Address the barriers to diffusion within current Head Start programs