



# **Closing Achievement Gaps: Getting PreK-3<sup>rd</sup> Grade Right**

Kristie Kauerz, Ed.D.  
Research Assistant Professor  
University of Washington

Hartford, CT  
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## Goals for this Presentation



- Review research that makes the case for P-3 approaches
- Provide conceptual framing
- Outline challenges to this work
- Suggest new directions for implementation

## What Research Tells Us

- Neuroscience and Brain Development
- Disadvantage and Disparities throughout Childhood

Brain  
Development

## Experience Shapes Brain Architecture

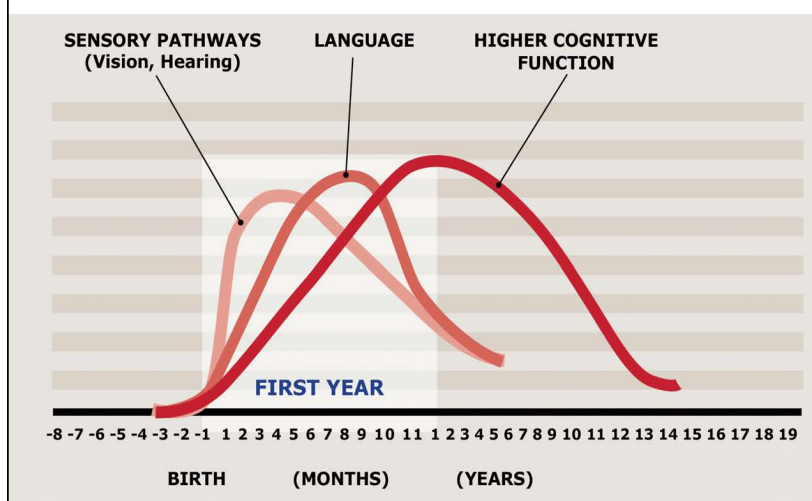


**Birth**

Source:  
Center on the  
Developing  
Child, Harvard  
University

Image Source:  
Conel, JL

## Brains are Built from the Bottom Up (Skill begets skill)



Source:  
Center on the  
Developing  
Child

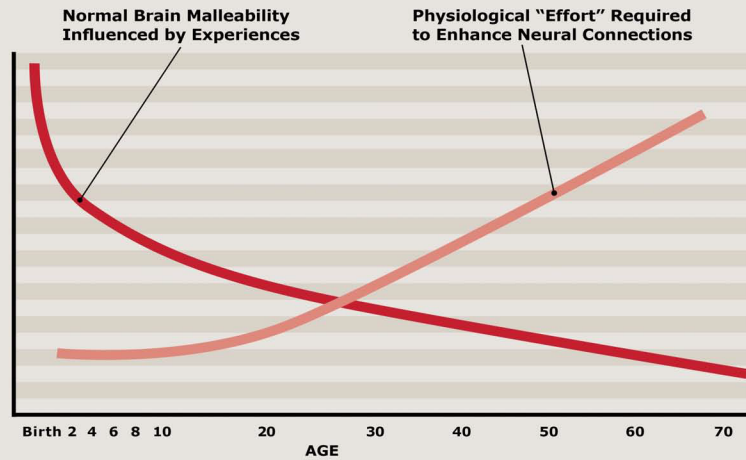
Cognitive, Social, and  
Emotional Development are  
Connected: You Can't Do One  
Without the Other



Experiences Build Brain  
Architecture

[http://developingchild.harvard.edu/resources/  
multimedia/videos/three\\_core\\_concepts/  
serve\\_and\\_return/](http://developingchild.harvard.edu/resources/multimedia/videos/three_core_concepts/serve_and_return/)

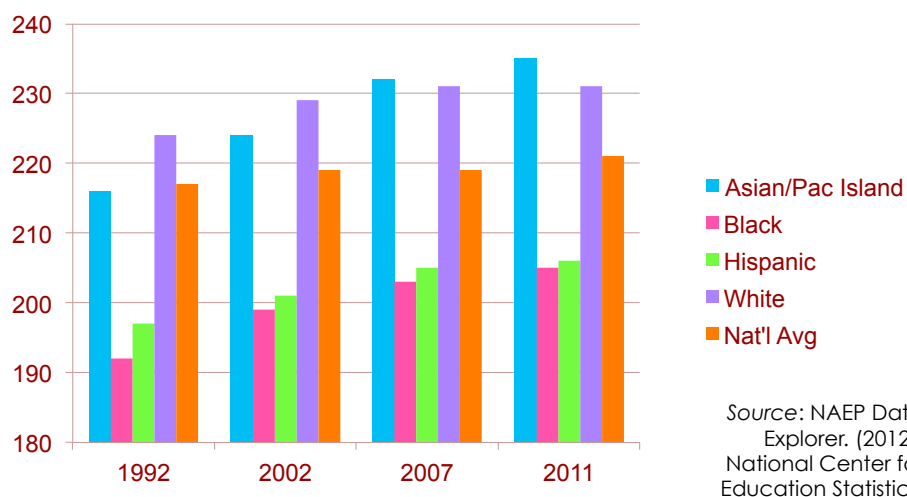
## Ability to Change Brains and Behaviors Decreases Over Time



Source: Center on the Developing Child, Harvard University

## Disadvantage and Disparities

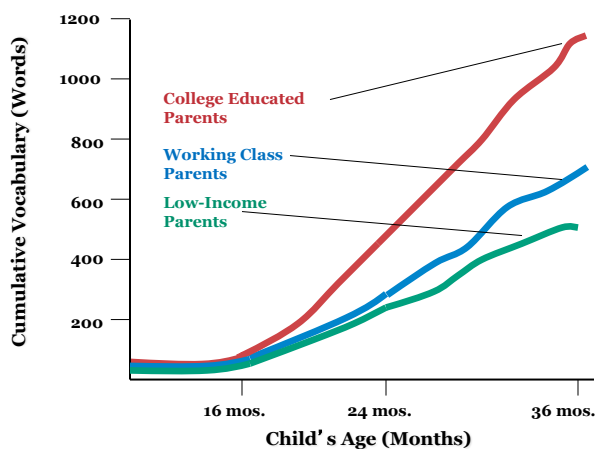
## Average Nat'l NAEP Reading scores Grade 4 by Race/Ethnicity



## But Achievement Gaps Start Much Earlier

[picture of 9-month olds]

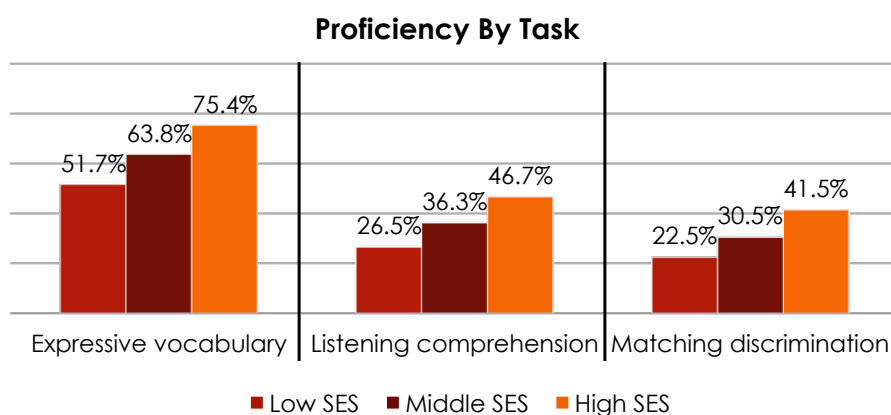
## Barriers to Educational Achievement Emerge at a Very Young Age



Data Source: Hart & Risley (1995)

Graph Courtesy: Center on the Developing Child at Harvard University

## Performance among 2-year-olds by SES: 2003-04



Source: Snyder, 2010

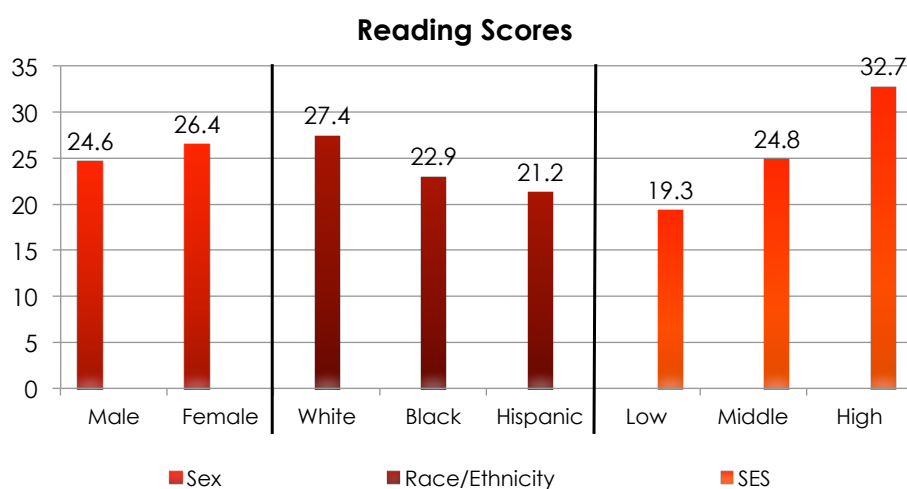
Size of differences as measured in  
standard deviation units  
(22-25 mos.)

Comparison	Vocabulary	Comprehension	Matching
Female vs. male	0.36*	0.35*	0.34*
High SES vs. low SES	0.88*	0.93*	0.92*

\*Significant (.05)

Source: Snyder, 2010

Early reading scores among 4-yr-olds by sex,  
race/ethnicity, SES



Source: Snyder, 2010



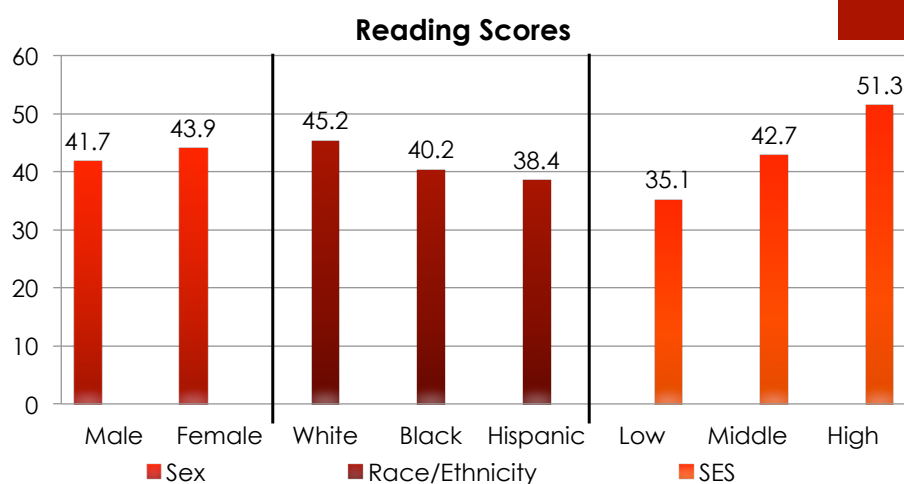
Size of differences as measured in standard deviation units  
(48-57 mos.)

Comparison	Early reading	Early math
Female vs. Male	0.14*	0.09*
High SES vs. Low SES	1.11*	1.02*

\*Significant (.05)

Source: Snyder, 2010

Early reading scores for children entering kindergarten: 2006-07/-08



Source: Snyder, 2010

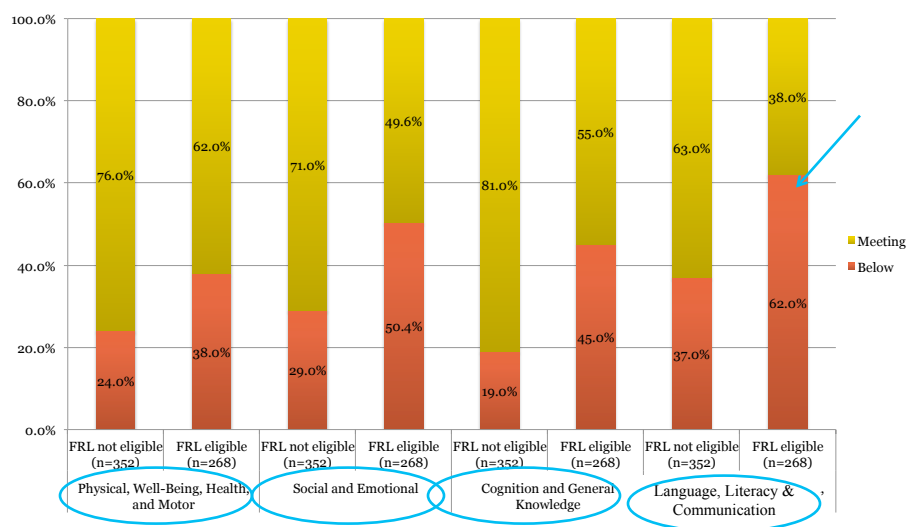
Size of differences as measured in standard deviation units at Kindergarten entry

Comparison	Early reading	Early math
Female vs. Male	0.13*	0.04*
High vs. Low SES	1.15*	1.19*

\*Significant (.05)

Source: Snyder, 2010

**WSS Achievement in Four Domains by Free or Reduced Price Lunch Eligibility**

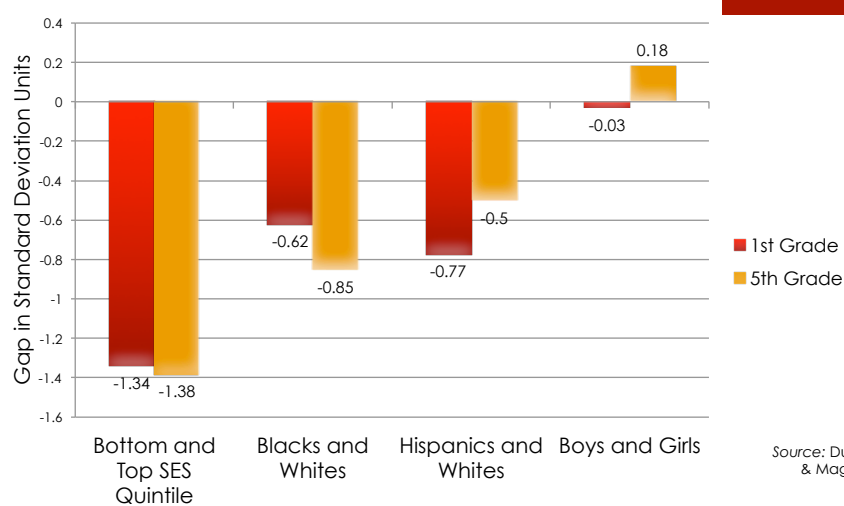


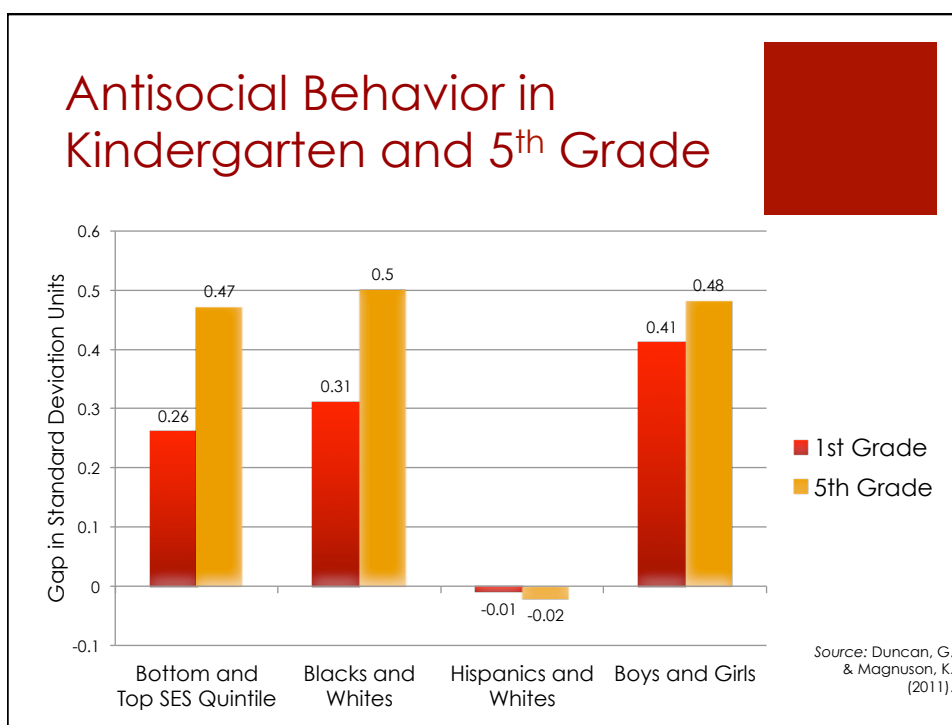
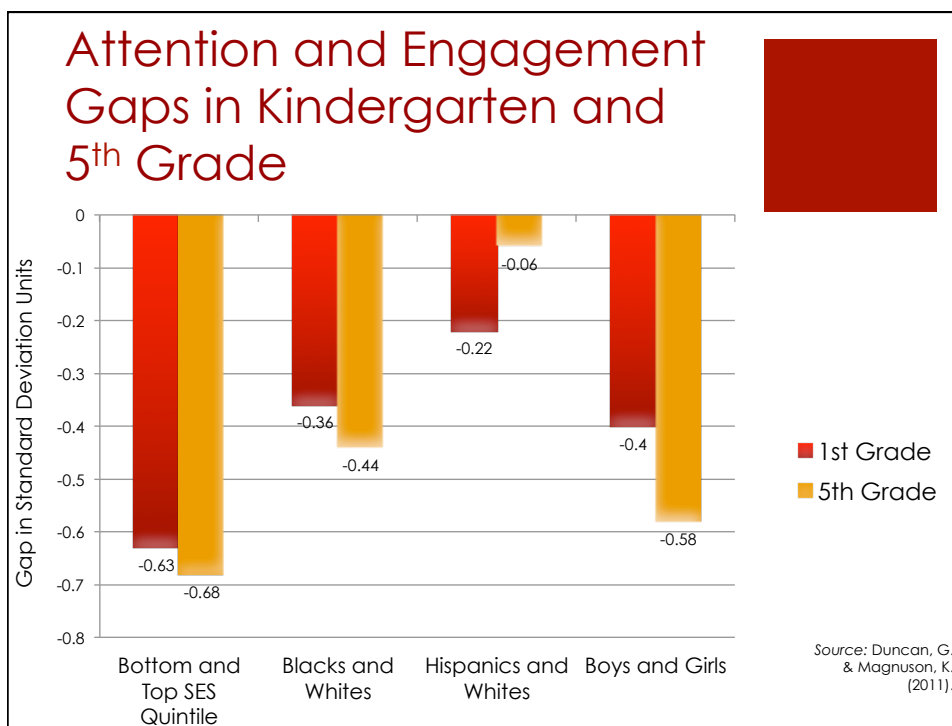
Source: Joseph, Cevalco, Lee & Stull, 2011

Source: Kauerz, K. (25 Feb 2013).  
Presentation to Connecticut 3-3  
Stakeholders. Hartford, CT.

Disparities  
remain stable  
(or grow) across  
primary school.

## Math Gaps in Kindergarten and 5<sup>th</sup> Grade





## Turn and Talk

- What are the key take-away messages that you heard?
- If you were to summarize the importance of the 0-8 years in one sentence, what would it be?

## Birth through Age 8

The windows  
of  
opportunity



Persistent  
disparities

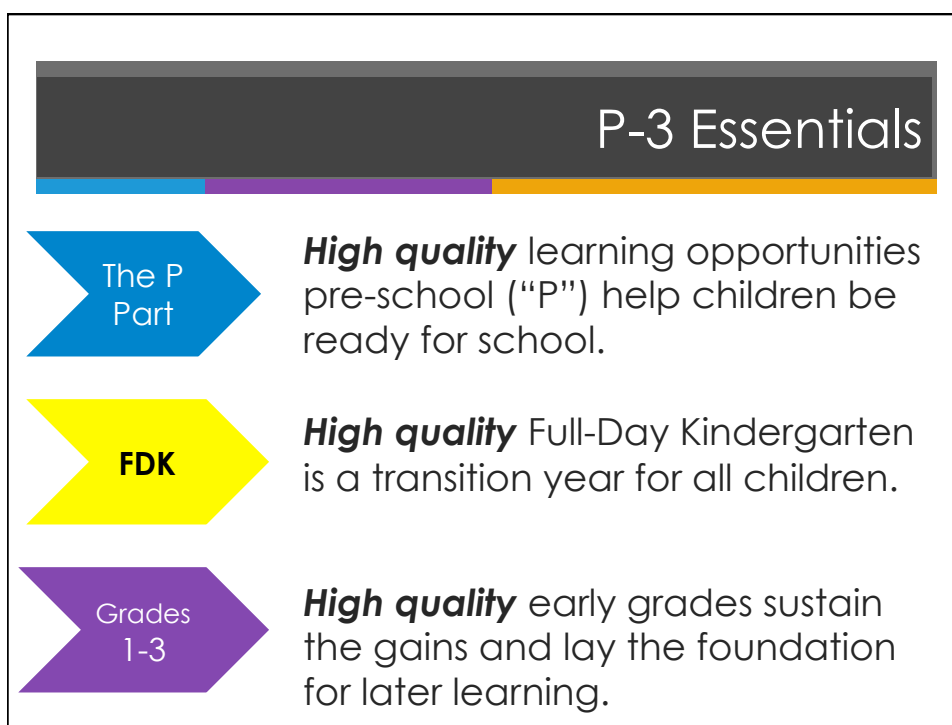
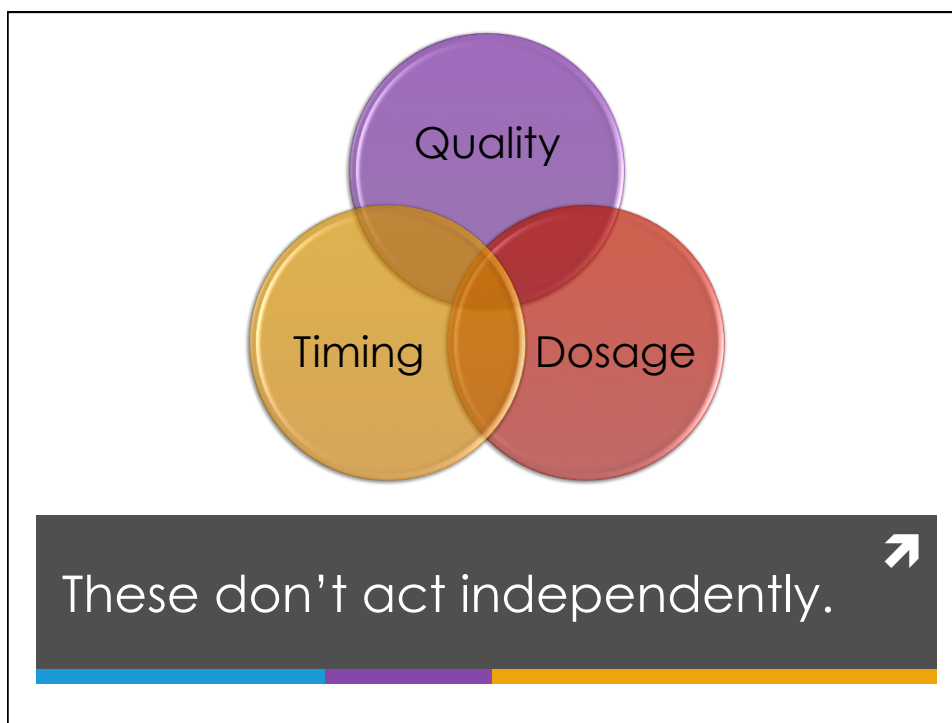
**= Clarion call for a new approach**

## We Know What To Do



## Research Behind P-3

- Timing
  - When intervention starts
- Quality
  - Intentional instructional component
  - Focus on social-emotional
- Dosage
  - Day-to-day basis (e.g., half-day vs. full-day)
  - Cumulative, over time (e.g., attendance; year-to-year)



## Putting the Pieces Together

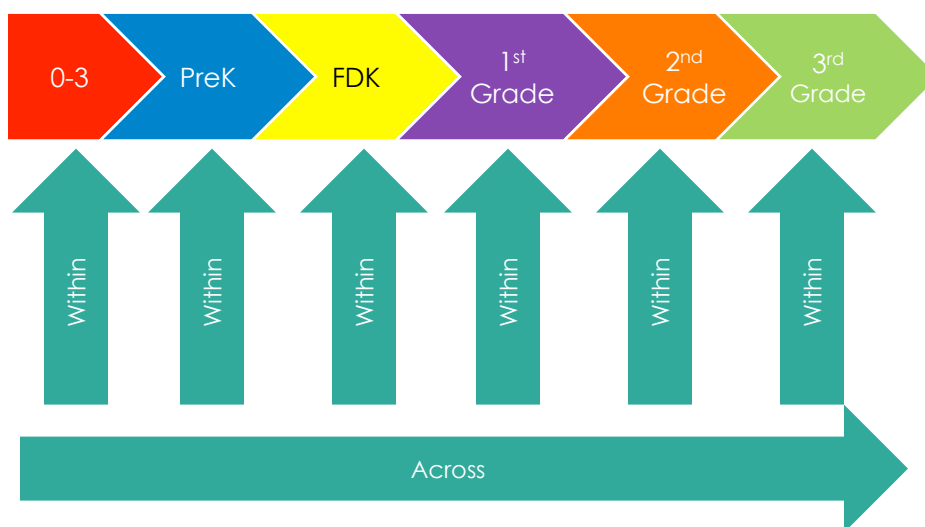
Blocks



Pop-Beads



## P-3 Improves *Each* Grade Level and Aligns Across Grade Levels





## Definition of P-3

- The continuum of learning that spans the traditional boundaries of Pre-school (learning-based programs children experience before they enter school) and the early grades (K-3).

## Intermediate Outcomes

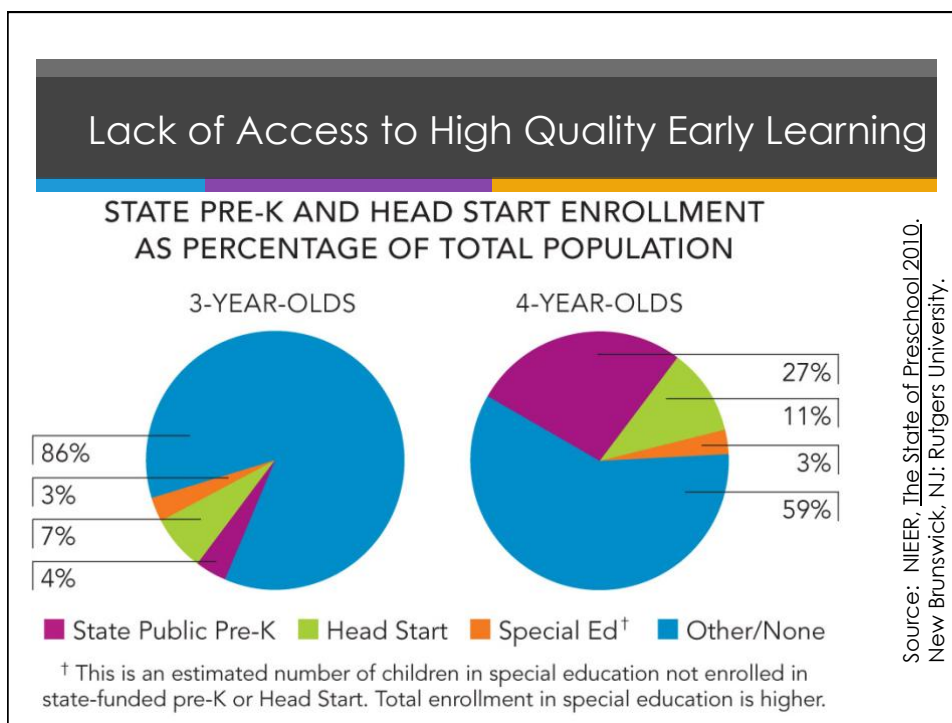
- Improve quality of learning opportunities
- Create instructional coherence
- Establish strong continuity (pathways) for children
- Honor teacher collaboration
- Build bridges between schools, communities, and families

## Ultimate P-3 Outcomes

1. Develop strong foundational cognitive skills (literacy/communication and math).
2. Develop social and emotional competence.
3. Establish patterns of engagement in school and learning.

## Despite Knowing What to Do, We Don't Do It Well

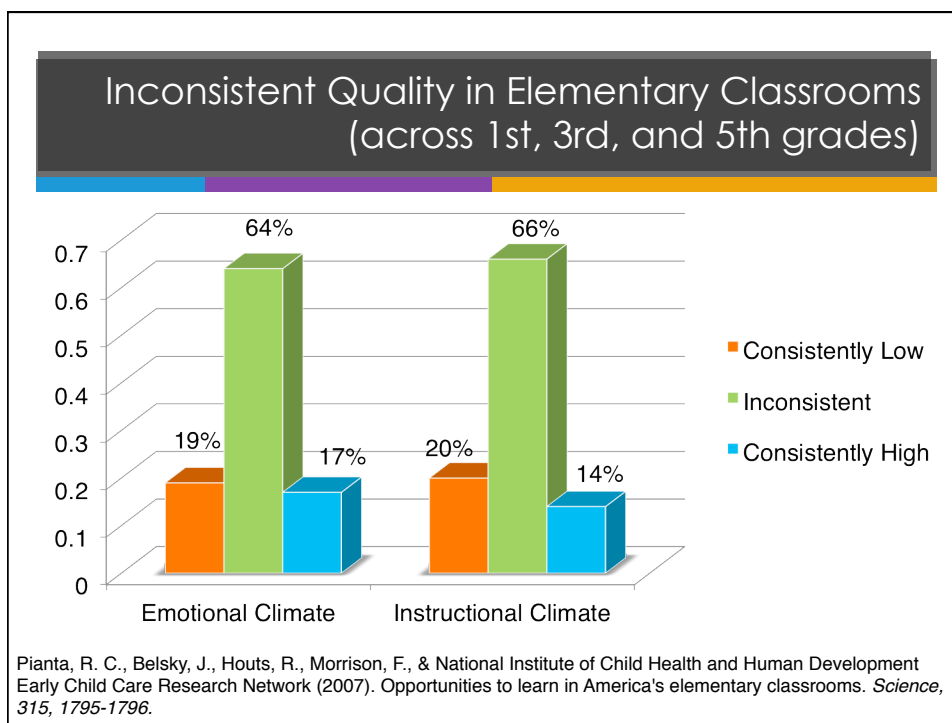
- Pervasive low quality
- Fragmented alignment and lack of continuity



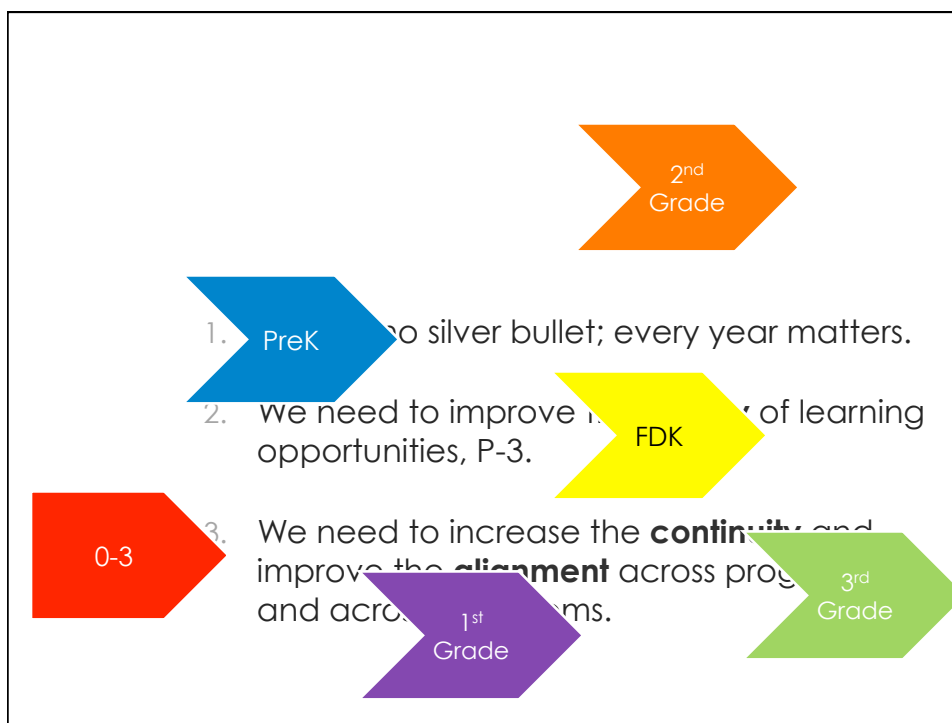
### Full-Day Kindergarten in the U.S.

	# of states
Require school districts to provide half-day Kindergarten	44
Require school districts to provide full-day Kindergarten	12
Fund full-day Kindergarten at a level equivalent to 1 <sup>st</sup> grade	11
Require students attend full-day Kindergarten	2

Source: Kauerz, K. (2010). *PreK-3<sup>rd</sup>: Putting Full-Day Kindergarten in the Middle*. New York: Foundation for Child Development.



## What Does P-3 Look Like?



## Common P-3 Elements

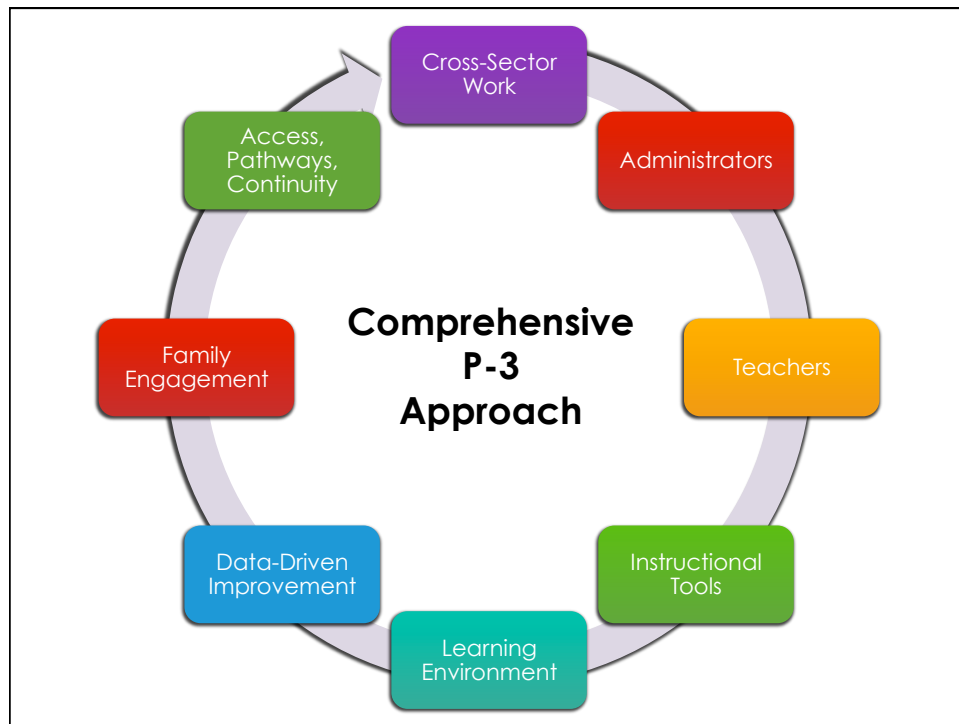
- **Prioritize** early learning and early grades
  - Full-day Kindergarten
  - Reduced K-2 class size
  - Teacher coaches
- Align all early learning programs with common goal
- A “value chain” approach to the PreK-12 continuum

## Common P-3 Elements

- Blurred lines between governance, management, staff, and community
- “Teacher” teamwork
  - Vertical with community pre-schools
  - Grade-level with specialists and volunteers
- Coherent professional development that focuses on knowledge, skills, and *effectiveness*
- Common, rigorous standards, curricula, and assessments
  - Integrate diagnostic assessments

## Common P-3 Elements

- Transition practices every year, between every grade
- Develop strong family-school partnerships focused on instructional support
- Innovative approaches that align with child development
  - Common school-level literacy block
  - Teacher looping



## Turn and Talk (and Break)

- What are the common elements in your approach to P-3?
- Are there new and different ways that you might align your work?

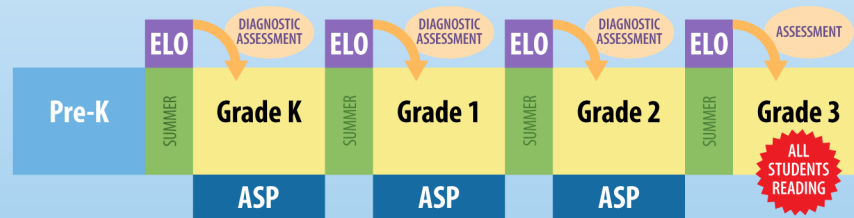
But do we know that it works?



## Early Success Performance Plan



**ELO: Extended Learning Opportunity—Summer Adventures in Learning**



**ASP: After-school Programs**

All components include congruent and aligned reading, writing, and mathematics curriculum with ongoing assessment and language development.

### CONTINUOUS IMPROVEMENT

Curriculum • Assessment • Professional Development • Technology • Research • Parent Involvement

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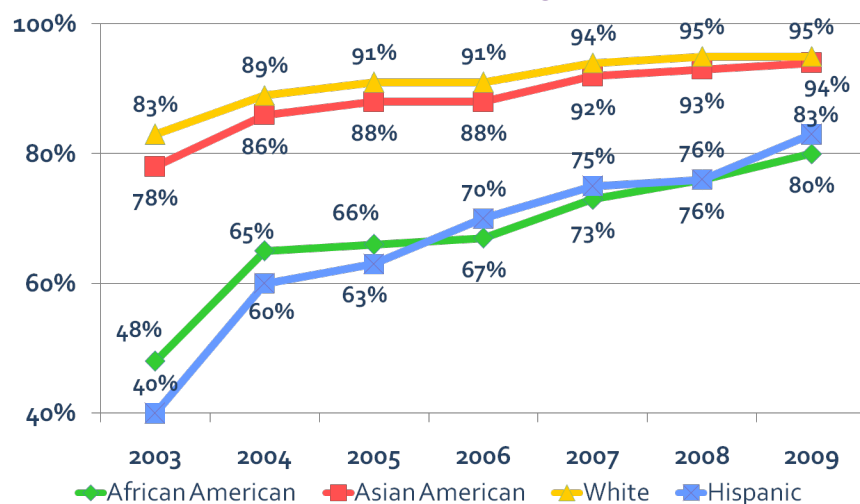
Source: Kauerz, K. (25 Feb 2013).  
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Stakeholders. Hartford, CT.



## Grade 3 Reading Maryland State Assessment

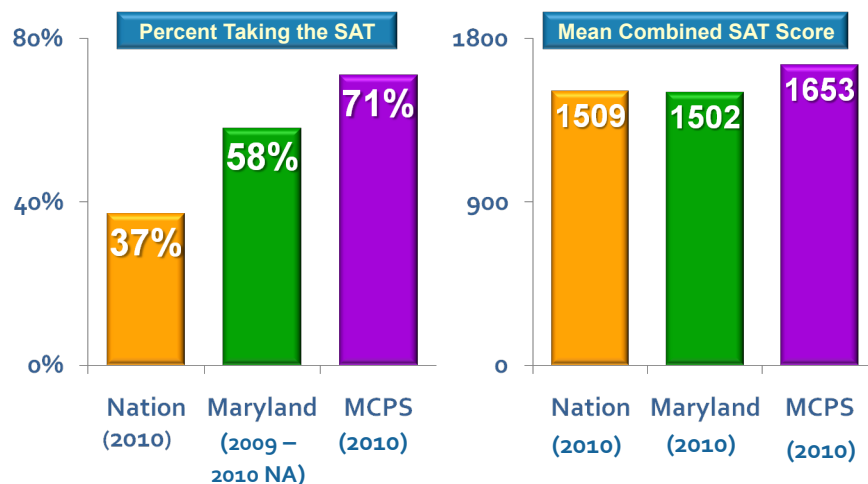
### PERCENT PROFICIENT OR HIGHER

Gap Shrinks 29 Percentage Points



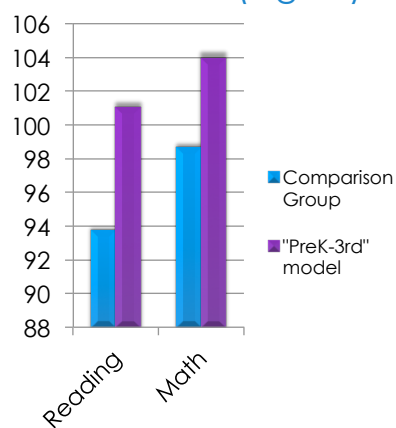
## SAT Participation and Performance

National, Maryland, and MCPS Class of 2010

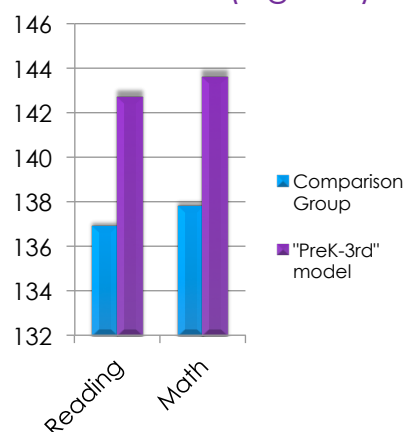


## CPC Achievement Scores

### 3rd Grade (Age 9)

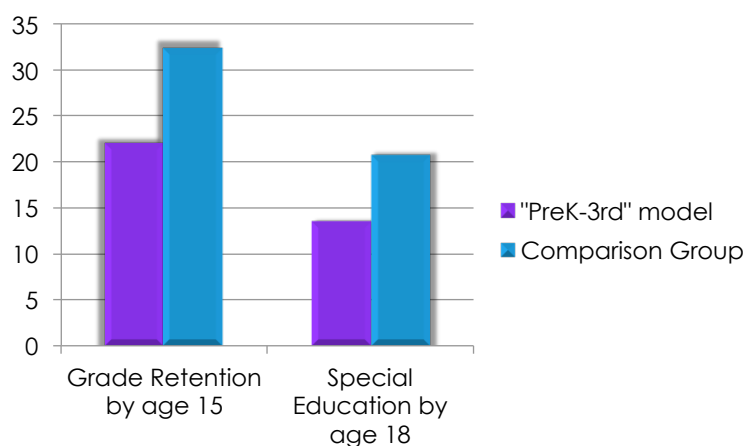


### 7th Grade (Age 13)



Reynolds, A. J., & Temple, J. A. (1998). Extended early childhood intervention and school achievement: Age 13 findings from the Chicago Longitudinal Study. *Child Development*, 69, 231-246.

## CPC – Other K-12 Outcomes



Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82(1), 379-404.

## Challenges

- 0-5 and K-12 are different galaxies (L. Wing)
  - Lack of shared vocabulary
  - Lack of trust/understanding
- We are accustomed to our Cylinders of Excellence
- The Undisciplined Pursuit of More (G. McKeown)
  - Lack clarity of purpose
  - Diffused efforts

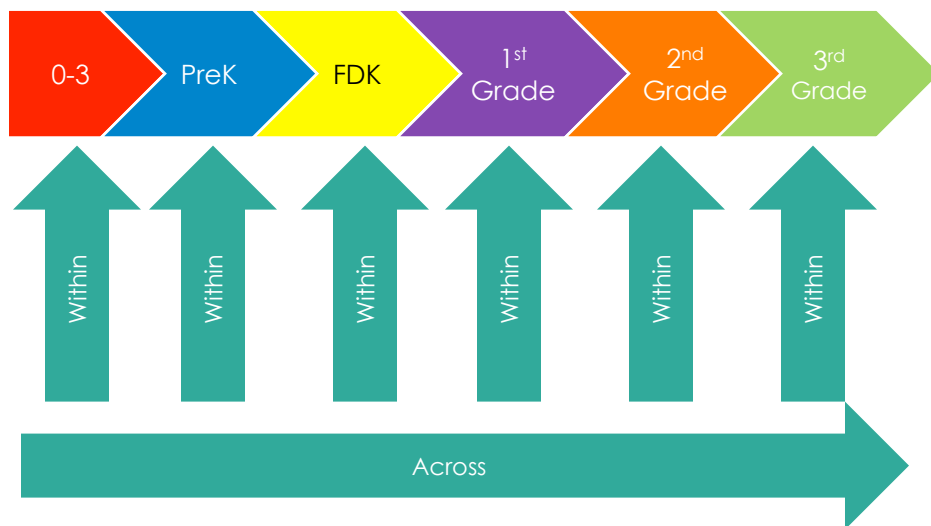
## Challenges

- Self-justifying busy-ness
  - Busy is not the same as effective
- Over-reliance on intermediate or ultimate outcomes (it must be both)
  - "doing the right things and doing those things right."
- Imprecise, inaccurate, or incomplete theories of change

## Self-Reflection and Next Steps

- Which challenge(s) resonate the most for you and your work?
- How can you tackle that challenge head-on as you move forward in this work?

## P-3 Improves *Each* Grade Level and Aligns Across Grade Levels



Kristie Kauerz, Ed.D.

Research Assistant Professor, P-3 Education  
College of Education, University of Washington

Ph: 206.221.3893  
kauerzk@uw.edu

Contact Information

