Why Did the Court Order PreK & Why Is It Expanding?

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NIEER: Who We Are, What We Do

Founded in 2002 w/ support from the Pew Charitable Trusts

- Independent, non-partisan, resource on ECE policy
- Research, evaluation, policy analysis, communications

Multidisciplinary team of 12 faculty and senior staff

- Extensive support staff, NIEER Fellows

Examples of NIEER’s Work

- Annual State of Preschool Yearbook (16 years)
- Evaluations of state and local PreK programs
- CEELO—Federal TA center for early learning birth to age 5
- aieoTu—Birth to 5 care and education in Colombia
- International Journal of Early Care and Education Policy
Introductions: Who You Are? What Is Your Interest in PreK?
Topics

• An overview of the research base and discussion on mixed results
• PreK provision across the states with a detailed look at NJ
• Defining classroom quality – how do 3 and 4 year olds learn and what does that mean for teaching?
• What is effective leadership for PreK?
An Overview of the Research Base and Discussion on Mixed Results
Why invest in Early Childhood Development?

- First 5 years are a period of rapid brain development
- Early experience influences brain building for better or worse
- Foundations of language & other cognitive abilities
- Foundations of social & emotional development
- High quality ECCE can enhance learning & development producing high long-term economic returns
- **Worldwide more than 200 million children under 5 are failing to reach their developmental potential**
Brain Growth (Volume) & Elaboration: Entire 0-8 period is important
Academic Abilities at K-Entry by Family Income

School Readiness Gap

Academic Ability Scores

- Reading
- Math
- General Knowledge
- “Optimal Development”

Family Income

Bottom 20%  |  2nd Lowest 20%  |  Middle 20%  |  2nd Highest 20%  |  Top 20%

Barnett, Brown, and Shore 2004
Social Skills at K Entry by Family Income

Barnett, Brown, and Shore 2004
Long-Term Consequences for Education Success and Productivity

• Increased achievement and academic success
• Less grade repetition and special needs
• Increased educational attainment
• Less delinquency, and crime
• Increased earnings and self-sufficiency
• Less risky behavior: smoking, drugs, teen pregnancy
• Better physical and mental health
Long-Term Consequences for the State, Nation and Government

- Lower schooling costs
- Lower social services costs
- Lower costs of crime and violence
- Lower health care costs
- Increased standard of living
- Decreased economic inequality
Long Ago and Far Away: Three Dramatic Demonstrations with Low-income Children

- Perry: half-day preschool in public school, ages 3 & 4, small scale
  - One highly qualified teacher per 6 children, strong leadership
  - Weekly home visits with one-on-one tutoring
- Abecedarian: birth to age 5 full-day, year round, small scale
  - Well-educated teachers, very small classes, strong leadership
- Child-Parent Centers: P-3 starting at age 3 in public school, large scale
  - Well-educated teachers, small classes, strong leadership
  - Explicit coordination from preschool through third grade
  - Extensive parent engagement with centers
Perry IQ and Achievement Effects over Time

![Graph showing IQ, Read, and Math achievements over different ages (Age 5, Age 6, Age 7, Age 8, Age 9, Age 10, Age 14).]
High/Scope Perry Preschool: Educational Effects

- **Special Education (Cog.)**: 15% (Program group) vs. 34% (No-program group)
- **Age 14 achievement at 10th %ile +**: 15% (Program group) vs. 49% (No-program group)
- **Graduated from high school on time**: 45% (Program group) vs. 66% (No-program group)

Perry Preschool: Crime Effects at 40

## Economic Returns to Pre-K

(In 2006 dollars, 3% discount rate)

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost</th>
<th>Benefits</th>
<th>B/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perry Pre-K</td>
<td>$17,599</td>
<td>$284,086</td>
<td>16</td>
</tr>
<tr>
<td>Abecedarian</td>
<td>$70,697</td>
<td>$176,284</td>
<td>2.5</td>
</tr>
<tr>
<td>Chicago</td>
<td>$ 8,224</td>
<td>$ 83,511</td>
<td>10</td>
</tr>
</tbody>
</table>
Cognitive Gains from PreK Programs for Low-income Children in the US

![Chart showing effects of PreK programs on cognitive gains over different ages.](chart.png)
Half Century Later: Today’s ECE Impacts

- Highly variable across programs & contexts
- Sometimes near 0 or negative in follow-up
- Nevertheless there are some strong successes at scale
  - In US some state and city preschool programs
  - In EU nationwide preschool programs
  - In Nordic countries programs starting in infancy
Most PreK Is Not Like the Big Three
What explains these mixed results?
What explains mixed results?

- Program design failure: replicate all of the components of the best programs
- Implementation failure: plan, analyze, and coach for fidelity and continuous improvement
- Research study design failure - imprecise or no measurement of:
  - Components of the prek program – a rose is not a daisy is not a petunia
  - Counter-factual – what are the control children experiencing?
  - K-3 experiences
    - Catch up – time and resources dedicated to lowest functioning children
    - Peer effects – critical mass of prek attendees, concentration of poverty
    - Continuity (DLL, inclusion, coherent curriculum, teaching and assessment)
Conclusions

• PreK can alter the development and life course of disadvantaged children
• Few children now receive PreK programs of the intensity and quality that make a big difference
• Starting at birth and continuing to 3rd grade produce the largest, most fundamental impacts
• Only programs with large early gains for learning in unconstrained domains have long-term impacts
• Strong design plus strong implementation supported by a “GPS” is a key to success
PreK Provision across the States with a Detailed Look at NJ
A Peek Inside the Yearbook

- Executive Summary
- Tables
- Maps
- Figures
- Special Report: Supporting Teachers in State-Funded Preschool
- What Qualifies as State Pre-k?
- Roadmap to State Profile Pages
- State Profiles
- Methodology
- Appendices

http://nieer.org/state-preschool-yearbooks

Funded by the Heising-Simons Foundation
Change Over Time Across States

PERCENT OF STATE POPULATION ENROLLED

- 2002: 3% 14%
- 2005: 3% 3%
- 2008: 17% 4%
- 2011: 24% 4%
- 2014: 28% 4%
- 2017: 30% 5%
- 2018: 33% 6%

Legend:
- 3-year-olds
- 4-year-olds

AVERAGE STATE SPENDING PER CHILD ENROLLED
(2018 DOLLARS)

- 2002: $5,600
- 2005: $5,149
- 2008: $5,030
- 2011: $4,887
- 2014: $4,214
- 2017: $5,183
- 2018: $5,170
Disparities in % of 4-year-olds enrolled in state-funded pre-K
Most states serve few 3-year-olds in state-funded pre-K
State Spending per Child Varies
## Quality Standards Benchmarks

<table>
<thead>
<tr>
<th>Standard</th>
<th>New Jersey</th>
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</thead>
<tbody>
<tr>
<td>Comprehensive Early Learning Standards</td>
<td>Yes</td>
</tr>
<tr>
<td>Curriculum Implementation Support</td>
<td>Yes</td>
</tr>
<tr>
<td>Lead Teacher Degree (BA)</td>
<td>Yes</td>
</tr>
<tr>
<td>Lead Teacher Specialized Training</td>
<td>Yes</td>
</tr>
<tr>
<td>Assistant Teacher Degree (CDA)</td>
<td>(HSD)</td>
</tr>
<tr>
<td>Staff Professional Development</td>
<td>(No PD Plans for TAs)</td>
</tr>
<tr>
<td>Maximum Class Size (20)</td>
<td>Yes</td>
</tr>
<tr>
<td>Staff:Child Ratio (1:10)</td>
<td>Yes</td>
</tr>
<tr>
<td>Screenings and Referrals &amp; 1 support service</td>
<td>Yes</td>
</tr>
<tr>
<td>Continuous Improvement</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Two worlds of State Pre-K

Fewer supports for state Pre-K teachers in private providers than in public schools
Abbott Preschool

The beginning of high quality preschool in New Jersey

https://www.youtube.com/watch?v=kTJH8-okGoU
The program resulted in a significant increase in classroom quality.

1 = Inadequate, 3 = Minimal, 5 = Good, 7 = Excellent

<table>
<thead>
<tr>
<th>2000</th>
<th>2005</th>
<th>2008</th>
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<tbody>
<tr>
<td>3.9</td>
<td>0.2</td>
<td>4.2</td>
</tr>
<tr>
<td>19.9</td>
<td>2.5</td>
<td>12.6</td>
</tr>
<tr>
<td>34.6</td>
<td>4.2</td>
<td>34.6</td>
</tr>
<tr>
<td>45.3</td>
<td>32.2</td>
<td>34.6</td>
</tr>
<tr>
<td>47.4</td>
<td>47.4</td>
<td>47.4</td>
</tr>
<tr>
<td>16</td>
<td>5.7</td>
<td>16</td>
</tr>
</tbody>
</table>

Percentage of Classrooms
NJ Abbott Model Raised Achievement

<table>
<thead>
<tr>
<th>Subject</th>
<th>1 year Abbott pre-k</th>
<th>2 year Abbott pre-k</th>
</tr>
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<tbody>
<tr>
<td>LAL 4th</td>
<td>.12</td>
<td>.26</td>
</tr>
<tr>
<td>LAL 5th</td>
<td>.18</td>
<td>.22</td>
</tr>
<tr>
<td>Math 4th</td>
<td>.17</td>
<td>.37</td>
</tr>
<tr>
<td>Math 5th</td>
<td>.14</td>
<td>.29</td>
</tr>
<tr>
<td>Science 4th</td>
<td>.17</td>
<td>.37</td>
</tr>
</tbody>
</table>

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NJ Pre-K Cut Retention & Special Ed. (Grade 5)

Retention
- Abbott Pre-K: 12%
- No Abbott Pre-K: 19%

Special Education
- Abbott Pre-K: 12%
- No Abbott Pre-K: 17%
# NJ Preschool Expansion Awards

<table>
<thead>
<tr>
<th>Award Date</th>
<th>Round</th>
<th>Eligible Districts</th>
<th>Total Budget</th>
<th>Districts Approved*</th>
<th>Funding Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2017</td>
<td>Round 1</td>
<td>113</td>
<td>$25M</td>
<td>26</td>
<td>$19M</td>
</tr>
<tr>
<td>September 2018</td>
<td>Round 2</td>
<td>113</td>
<td>$50M</td>
<td>19 new +12</td>
<td>$20.6M</td>
</tr>
<tr>
<td>October 2018</td>
<td>Round 2b</td>
<td>228</td>
<td>$29.4M</td>
<td>33</td>
<td>$26.9M</td>
</tr>
<tr>
<td>September 2019</td>
<td>Round 3</td>
<td>158</td>
<td>$20M</td>
<td>28</td>
<td>$20M</td>
</tr>
</tbody>
</table>

*Numbers include districts also funded through other existing programs (i.e. ECPA, ELLI and PEG).
## Breakdown of NJ Pre-K Enrollment

<table>
<thead>
<tr>
<th>Program</th>
<th># of Districts</th>
<th>Half-Day</th>
<th>Full-Day</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott</td>
<td>35</td>
<td>0</td>
<td>41,762</td>
<td>41,762</td>
</tr>
<tr>
<td>ECPA/ELLI</td>
<td>97</td>
<td>2,408</td>
<td>4,768</td>
<td>7,176</td>
</tr>
<tr>
<td>PEG</td>
<td>17</td>
<td>270</td>
<td>2,238</td>
<td>2,508</td>
</tr>
<tr>
<td>Expansion*</td>
<td>32</td>
<td>883</td>
<td>224</td>
<td>1,107</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>181</strong></td>
<td><strong>3,561</strong></td>
<td><strong>48,992</strong></td>
<td><strong>52,553</strong></td>
</tr>
</tbody>
</table>

*ECPA, ELLI, and PEG districts that receive Expansion funding are included in the rows for their original, respective programs.*
Readiness for PreK Expansion In 2018

Classroom Quality (ECERS-3) by Funding

- **Base Funding**
  - 1-1.99: 6
  - 2-2.99: 34
  - 3-3.99: 57
  - 4-4.99: 41
  - 5-5.99: 31
  - 6-7: 10

- **Full Funding**
  - 1-1.99: 0
  - 2-2.99: 9
  - 3-3.99: 41
  - 4-4.99: 67
  - 5-5.99: 39
  - 6-7: 4

Total N=298
Base N=138
Full N = 160
Defining Classroom Quality – How Do 3 & 4 Year Olds Learn? What Does That Mean For Teaching?
Kira was sitting at a kidney shaped table and commented to another child at the rectangular table, “We need more napkins than you do because our table is bigger.” There were eight children sitting at each table.
The children were doing a cooking activity. As the teacher put the butter in the hot pan it slid across the surface. Corey squealed, “It’s running!” The teacher asked, “Do you think it’s alive?” “Yes!” said Corey.
After reading Gilberto and the Wind, Tonia said, “The trees make the wind. You can see them moving.”
When asked what she thought her father would like for his birthday, Marta said, “…a Barbie.”
“Where did the moon come from?” Charles: “It came from a man. He throwed it up there like a baseball.”
Keisha was counting spaces in Junior Monopoly, “1,2,3,4,5,6” while she moved her piece eight spaces.
When we were playing Junior Monopoly, Andy landed on my property and owed me $4. Because he loved yellow, he wouldn’t use $2 bills which are yellow so he combined a $1 and a $3 bill. But, when I owed Uncle Pennybags $3, he was outraged that I put in a $4 bill and took out a $1 bill. He insisted that I change my $4 at the bank first, put 3 ones in Uncle Pennybags, and keep one.
Ressie asked her teacher to write the name of the restaurant then Ressie wrote the recipe for her soup. As she wrote she said, “That’s a cup of flour, flour’s in it, see. See the noodle line, put that in too. That’s an egg, put that in. That’s a mixing thing, mix it. Three cups- one for you, Michelle, me.”
What Does This Mean for Teaching?
WORK vs LEARNING vs PLAY
Hermione Marshall’s research in kindergarten classrooms

<table>
<thead>
<tr>
<th>Class Type</th>
<th>Child’s View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheets and constrained skills</td>
<td>Only recess was play all else was work</td>
</tr>
<tr>
<td>Integrated and creative tasks designed to develop unconstrained skills</td>
<td>“Workplace of the mind not the factory.” Both learning and play</td>
</tr>
</tbody>
</table>
What is play?

- Dramatic or make believe play
- Constructive play (action versus “hard fun”)

What characterizes these activities:

- Creating, problem solving, accomplishing with materials, thoughts, play themes, friends, muscles
- Games with rules but rules are inconsistent
Value of Play

Children develop

• self-regulation skills
• more cooperative and longer lasting interactions
• memory development
• storytelling and story memory
• complex language and vocabulary
• imaginative and flexible thinking
• many scientific, mathematical, and social discoveries
• persistence
The Teacher’s Role in Play

1) Scaffolding more sophisticated play and problem-solving and

2) getting out of the play as quickly as possible
• Play alongside children,
• Encourage group games,
• Advocate for play in the classroom and
• Learn from watching them play and thinking about what we’ve seen and how we will use it in play tomorrow
Children’s Experiences in Three Curricula

- **Teacher-directed activities**
  - Direct Instruction: 72%
  - High/Scope: 48%
  - Unit-based: 56%

- **Child-initiated activities**
  - Direct Instruction: 2%
  - High/Scope: 27%
  - Unit-based: 21%
Direct Instruction

Teacher-directed activities designed to teach information and develop skills.

Comes in different varieties.
Direct Instruction
Mrs. Blanco’s class went on a field trip to the pet store down the street where, much to the children’s fascination and the adults’ dismay, the owner fed the snakes live mice. Back at the classroom some children are looking at the page in *Amazing Snakes* on boa constrictors. They ask Mrs. Blanco what the snake is called.

She tells them and then says: “Constrictor, that’s an interesting word. Constrict means to squeeze or tighten. Does your mommy or daddy ever say, ‘You’re squeezing me too tight,’ when you give them a really big hug? When you squeeze too tight like that you are being a constrictor.” She points out how the snake in the picture is squeezing it’s prey – “the animal it will eat.”
Some Negative Curriculum Effects through Age 23

- Ever emotionally impaired:
  - Direct Instruction: 47%
  - High/Scope: 6%
  - Unit-based: 6%

- 10+ acts of teen misconduct:
  - Direct Instruction: 56%
  - High/Scope: 23%
  - Unit-based: 23%

- People give you a hard time:
  - Direct Instruction: 69%
  - High/Scope: 36%
  - Unit-based: 63%
Some Positive Curriculum Effects through Age 23

- Played sports as teen:
  - Direct Instruction: 44%
  - High/Scope: 94%
  - Unit-based: 72%

- Planned bachelor's degree at 23:
  - Direct Instruction: 36%
  - High/Scope: 70%
  - Unit-based: 57%

- Did volunteer work at 23:
  - Direct Instruction: 11%
  - High/Scope: 43%
  - Unit-based: 44%
Significant Influences on Effect Size

N= 123 Studies of Early Childhood Education

- Time of Follow-Up: Negative
- Comprehensive Services: Negative
- Explicit Instruction: Positive
- Individual/Small group: Positive
- Research Design Quality: Positive
What Does This Mean for Leadership?
Lessons for Design

• Initial gains must be large & meaningful
• Structural features (resources) are necessary, but not sufficient
• Cost should be driven by design not *vice versa*
• Focus on what else happens before, after, and around preschool (Birth - PreK – 3rd)
• Build-in implementation GPS
To Produce Large & Persistent Gains

- Aim high with intentional teaching
- Focus on unconstrained domains
  - Language
  - STEM
  - Self-control, character, SEL
- Individualize 1-on-1 & small groups
- Use strong play-based curriculum with fidelity
- Deliver a “big” dose—more engaged time, multiple years