Early Childhood Education

Need, Effects, Quality, & Design Issues

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Four Things We Know

1. The first few years of life are crucial for setting a strong or fragile foundation for all later learning, wellbeing and happiness.
Brain Images & Early Neglect


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Synaptic Development & Pruning

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2. The family is the child’s first and most important teacher.

   – Babies come pre-wired for learning through relationships.

   – Parents become wired for supporting babies.
Four Things We Know

3. Children learn through relationships.

   – Language as an example
The Language Explosion

Number of Words

Age in Months

0 6 12 18 24 30 36

0 50 100 150 200 250 300 350 400 450 500

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Disparities in Early Vocabulary Growth

- College Educated Parents
- Working Class Parents
- Welfare Parents

Cumulative Vocabulary (Words)

Child's Age (Months)

16 mos.  24 mos.  36 mos.
When do babies learn language?

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Four Things We Know

4. High-quality early education has lasting impacts on latter learning.
Randomized Trials of PreK

- **Perry Preschool Project** (Schweinhart et al., 1993; Barnett 2004)

  - 59% greater earnings (over 8 times as likely to earn $2000/month by age 27)
  - Nearly 3 times as likely to own a home
  - 31% more likely to have HS/GED
  - 56% less likely to need Special Ed
  - 26% less likely to need support for being unemployed
  - 80% less likely to be arrested
Randomized Trials of PreK

- **Abecedarian Project** (Ramey & Campbell, 1991)
  - Increase reading and math
  - Decreased grade retention
  - Earlier & longer is better

- **Harlem Project** (Deutsch, 1985)
  - 200% more likely to be employed
  - 33% more likely to have HS/GED
  - 30% more likely to have post-HS Ed
State PreK Impacts

- **Strongest effects:**
  - Language/literacy in K and 1\textsuperscript{st}
  - Later grade retention (44\% less by 5\textsuperscript{th})
  - State Achievement Test Scores

- **Weakest effects:**
  - Special Ed
  - Parent Involvement

Return on Investment

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(Reynolds, 2006)
“Soft Skills”

But it is not only about academic skills.

“Soft skills” are extremely important.

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### “Very Important” to Employers

<table>
<thead>
<tr>
<th>Skill</th>
<th>College Graduates</th>
<th>High School Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Communication</td>
<td>95%</td>
<td>70%</td>
</tr>
<tr>
<td>Teamwork</td>
<td>94%</td>
<td>72%</td>
</tr>
<tr>
<td>Work Ethic</td>
<td>94%</td>
<td>80%</td>
</tr>
<tr>
<td>Written Communication</td>
<td>93%</td>
<td>53%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>92%</td>
<td>58%</td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td><strong>88%</strong></td>
<td><strong>62%</strong></td>
</tr>
<tr>
<td>Ethics/Responsibility</td>
<td>86%</td>
<td>63%</td>
</tr>
<tr>
<td>Leadership</td>
<td>82%</td>
<td>29%</td>
</tr>
<tr>
<td>Information Technology</td>
<td>81%</td>
<td>53%</td>
</tr>
<tr>
<td>Creativity/Innovation</td>
<td>81%</td>
<td>36%</td>
</tr>
<tr>
<td>Self-Direction</td>
<td>78%</td>
<td>43%</td>
</tr>
<tr>
<td>Diversity</td>
<td>72%</td>
<td>52%</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td><strong>64%</strong></td>
<td><strong>30%</strong></td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td><strong>33%</strong></td>
<td><strong>9%</strong></td>
</tr>
</tbody>
</table>

(Casner-Lotto & Benner, 2006)
Non-Cognitive Factors

- Cognitive and Non-Cognitive
- Soft Skills, Emotional Intelligence, etc.
  - Conscientiousness, Perseverance
  - Curiosity
  - Sociability, Self-Confidence
  - Cooperativeness, Empathy
  - Emotional Stability, Self-Regulation
What Science Says about ECE

- **Lesson 1**: Early education can have large and lasting effects.

- **Lesson 2**: Only high-quality programs achieve large impacts.

- **Lesson 3**: High-quality requires a lot of planning and careful implementation.
What Is Quality in ECE

• **Structural Quality**
  – Teacher training and compensation
  – Group size and child-teacher ratios
  – Intensity and duration

• **Process Quality**
  – Positive and warm teacher-child interactions
  – How the teacher implements the curriculum
  – Amount of language stimulation
  – Teacher responsiveness to the child
  – Etc., etc., etc.

• **Process quality matters most, but harder to measure**

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An Image of Challenging Behavior
The Arrest of a Kindergartener

A kindergartener and the police

In the classroom

In the principal’s office
Curiosity

- A “dry” study about policy adherence in state-administered preschool programs
- What I saw on the other side of a mirror
- Adding a few questions
• All 52 state preK systems (40 states)

• 3,898 respondents (81.0% response)

• CATI Survey

• Incentives: $10 + letter of appreciation
“Expulsion” from Preschool?

- The Expulsion Question
  - Over past 12 months
  - Required terminating participation in program
  - Behavioral problem
  - No transition to more appropriate setting

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PreK Expulsion Results: Nation

- 10.4% of PreK teachers expelled at least 1 child in past year due to behavior problems

- 1 child (78%); 2 children (15%); 3 children (6%); 4 children (1%)

- PreK Expulsion Rate = 6.7 / 1,000
- K-12 Expulsion Rate = 2.1 / 1,000
Child Care Expulsion Rates

- **Child Rates**
  - Detroit, MI (Grannan et al., 1999; n=127; 28%)
    - Rate = 28/1,000
  - Massachusetts (Gilliam & Shahar, 2006; n=119; 64%)
    - Rate = 27/1,000 (39% Classes)
  - Massachusetts (MA DOE, 2003; n=764; ?%)
    - Rate = 2% expelled; 1% “suggested,” 1% transferred
  - Colorado (Hoover, 2006; n=1,075; 17%)
    - Rate = 10/1,000

- **Center/Classroom Rates**
  - Chicago, IL (Cutler & Gilkerson, 2002; n=195 I/T; 38%)
    - Rate = 42% of Centers
  - Alaska (Alaska CCPO, 2005; n=493; 71%)
    - Rate = 35% Centers
Expulsion Rates (per 1,000)


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State PreK Expulsion Rates

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Bounced from Preschool

Nursery school delinquents? Some tots are getting the heave-ho for unruly behavior

Just two weeks into the school year, Renee Tucker got a call: Anthony Jr., 4, refused to stay in his seat or listen to instructions. The preschool director, Tracy Elliott of the New Creative Child Care Center in Suitland, Md., suggested the boy had ADHD (Attention Deficit Hyperactivity Disorder) and recommended Tucker take him for an evaluation. She promptly made a doctor's appointment, but before the date arrived, Elliott spoke to her again. "She said she couldn't deal with him anymore," Tucker recalls. "She said he needed more one-on-one attention. I was blown away."

A therapist Tucker consulted suggested a plausible reason for his agitation: The boy was still coping with the death of his father, Anthony Sr., in an auto accident a year earlier. Elliott says, "We had asked [Tucker] to work with us" but determined "there was something else needed with Anthony that we could not provide for him."

Having to leave preschool seems an ignominious way to launch one's academic career, but Anthony is hardly alone. A 2008 Yale University study of state-financed classroms estimated that more than 3,000 U.S. preschoolers are expelled each year—nearly three times higher than in elementary or high schools. While the study was the first of its kind and no comparable statistics are available, experts say there's little doubt preschool expulsions are on the rise.

Schools say they are prompted to take such action when a student's behavior—such as hitting, biting or throwing things—interferes with the smooth running of the class. The trend troubles some experts, however, who say too many schools are shirking their responsibility by tossing out, rather than dealing with, tots who act up or lag behind. "We are creating a group of children who are very likely to come to kindergarten with serious problems," says Dr. Jack Shonkoff, dean of Brandeis University's School for Social Policy and Management.

Behind the drive to expel is the changing nature of preschool itself. While a generation ago most kids...
International Coverage

“Asilo o scuola di criminalità?”

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By Margarita Snegireva. Teachers in preschool institutions who suffer from stress or depression recommend that students should be expelled more often than their emotionally stable colleagues.

Conducted by Yale University's Edward Zigler Center in Child Development and Social Policy, the study found that of teachers who reported high job stress, 14.3% also reported one or more expulsions in the last year, while 4.9% of teachers with low job stress reported expulsions.

The expulsions were also linked to high student-teacher ratios – 12.7% of teachers reported an expulsion in classrooms with 12 or more children per adult, compared with 7.7% of teachers who reported an expulsion when there were fewer than eight children per adult.

A Preschool Teacher is a type of early childhood educator who instructs children from infancy to age 5, which stands as the youngest stretch of early childhood education. Early Childhood Education teachers need to span the continuum of children from birth to age 8.

The term "preschool" refers to instruction in non-public arenas such as licensed preschools, childcare enters, family day care centers, home day care centers, center-based programs, federal programs like Head Start, and full or part-day private child centers/day care centers sponsored by religious bodies. The term "pre-kindergarten" refers to those lead teachers who offer instruction in a program for four-year olds funded as part of the state public school system.
TV Play on All Major Stations

ABC, CBS, NBC, FOX, CNN, BET
Who Gets Expelled?

- 4-year-olds 50% more likely than 3’s
- Boys 3½ times more likely than girls
- African Americans 2 times rate of European Americans; 5 times rate of Asian Americans
Child-Teacher Ratio Predicts Expulsion

% Classrooms Expelling

- Under 8: 7.7%
- 8 to 9: 9.8%
- 10 to 11: 10.5%
- 12 and Up: 12.7%

Number of Children Per Teacher

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Length of School Day Predicts Expulsion

<table>
<thead>
<tr>
<th>Length of Day</th>
<th>% Classrooms Expelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half-Day</td>
<td>7.1%</td>
</tr>
<tr>
<td>School-Day</td>
<td>9.0%</td>
</tr>
<tr>
<td>Extended-Day</td>
<td>13.2%</td>
</tr>
</tbody>
</table>
Teacher Job Stress Predicts Expulsion

- Low Stress: 4.9%
- Average Stress: 9.3%
- High Stress: 14.3%
"Today we’re going to explore in paint how we feel when we’re picked up late from preschool."
For our Sanity - we've nicknamed all of our Daycare Children...

Puh!  Baby Duh!  Lesbo  Gus  Mexi Baby  Chinese Kid  F.J. (Fat J.)

Pawley  Butch  Princess  Brat  Spoiled

Butter  Hail Mary  Paul D. Nose  Cousin It  Snotboy

Mindy Pandey  Poops  Screamer

L.B (Little Bugatti)
Listening in on a Classroom

- Houston, TX -- February 2008
Behavioral Consultation Predicts Decreased Expulsion

<table>
<thead>
<tr>
<th>Access to Behavioral Support Staff</th>
<th>% Classrooms Expelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Access</td>
<td>14.3%</td>
</tr>
<tr>
<td>On-Call Access</td>
<td>10.3%</td>
</tr>
<tr>
<td>On-Site Access</td>
<td>8.0%</td>
</tr>
</tbody>
</table>

Questions

• Is teaching a “private job”?

• How do we coach teachers?

• What is the value of parent-teacher cooperation?
Take Home Messages

- Children are born curious / ready to learn
- Children learn through relationships
- Children need to be bathed in language
- We need to focus on “soft skills”
- Teaching can be stressful and feel “private”
- Parent involvement / home-school collaboration are key
Design Questions

• How can environments be warm and inviting for children?

• How can the environment be a teacher?

• How can space designs foster relationships and minimize relational transitions?

• How can spaces increase language exposure? (simple considerations)
Design Questions

• How can spaces be more responsive to the needs of teachers?

• How can spaces allow for better transparency into teaching (coaching)?

• How can spaces be inviting for parents and families?

• Etc.
Thank You!