Investing in Early Child Education and Care (ECEC)
Riyadh, Kingdom of Saudi Arabia
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Steve Barnett, PhD
Rutgers
Graduate School of Education
Why invest in Early Childhood Education?

- First 5 years lay foundations for language, academic abilities, habits & socio-emotional development
- The window for change does not close after age 5, but “catch up” is costly
- Worldwide more than 200 million children under 5 are failing to reach their developmental potential
- ECEC can enhance learning and development for the long-term with high economic returns
ECEC 0-5 in the US Produce Long-Term Gains (results of 123 studies since 1960)
What determines cognitive gains?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Follow-Up</td>
<td>Negative</td>
</tr>
<tr>
<td>Research Design Quality</td>
<td>Positive</td>
</tr>
<tr>
<td>Intentional Teaching</td>
<td>Positive</td>
</tr>
<tr>
<td>Individualization (small groups and 1 on 1)</td>
<td>Positive</td>
</tr>
<tr>
<td>Comprehensive Services</td>
<td>Negative</td>
</tr>
</tbody>
</table>

n= 123 Studies
Effects of Early Childhood Investments for 4 Outcomes by Type of Program: Global Research

Cognitive
Social
Schooling
Health

Nutrition
Cash
Education

Nones and Barnett, 2009.
Potential Gains from ECD Investments

Greater Educational Success and Economic Productivity
- Increased achievement test scores
- Decreased special education and grade repetition
- Increased educational attainment
- Decreased behavior problems, delinquency, and crime
- Increased employment, earnings, and self-sufficiency
- Decreased smoking, drug use, depression

Decreased Costs to Government
- Schooling costs
- Social services costs
- Crime costs
- Health care costs
Three Benefit-Cost Analyses with Disadvantaged Children

<table>
<thead>
<tr>
<th></th>
<th>Abecedarian</th>
<th>Chicago</th>
<th>High/Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year began</td>
<td>1972</td>
<td>1985</td>
<td>1962</td>
</tr>
<tr>
<td>Location</td>
<td>Chapel Hill, NC</td>
<td>Chicago, IL</td>
<td>Ypsilanti, MI</td>
</tr>
<tr>
<td>Sample size</td>
<td>111</td>
<td>1,539</td>
<td>123</td>
</tr>
<tr>
<td>Design</td>
<td>RCT</td>
<td>Matched neighborhood</td>
<td>RCT</td>
</tr>
<tr>
<td>Ages</td>
<td>6 wks-age 5</td>
<td>Ages 3-4</td>
<td>Ages 3-4</td>
</tr>
<tr>
<td>Program schedule</td>
<td>Full-day, year round</td>
<td>Half-day, school year</td>
<td>Half-day, school year</td>
</tr>
</tbody>
</table>

High/Scope Perry Preschool: Educational Effects

- Program group
- No-program group

<table>
<thead>
<tr>
<th>Category</th>
<th>Program Group</th>
<th>No-program Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education (Cog.)</td>
<td>15%</td>
<td>34%</td>
</tr>
<tr>
<td>Age 14 achievement at 10th %ile +</td>
<td>15%</td>
<td>49%</td>
</tr>
<tr>
<td>Graduated from high school on time</td>
<td></td>
<td>66%</td>
</tr>
</tbody>
</table>

### Perry Preschool: Economic Effects at 40

<table>
<thead>
<tr>
<th></th>
<th>Program group</th>
<th>No-program group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earned &gt; $20K</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Employed</td>
<td>76%</td>
<td>62%</td>
</tr>
<tr>
<td>Had Savings Account</td>
<td>76%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Perry Preschool: Crime Effects at 40

### Abecedarian: Academic Benefits

<table>
<thead>
<tr>
<th>Education Outcome</th>
<th>Program Group (%)</th>
<th>No-program Group (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education</td>
<td>31%</td>
<td>49%</td>
</tr>
<tr>
<td>Grade Repeater</td>
<td>34%</td>
<td>65%</td>
</tr>
<tr>
<td>HS Graduation</td>
<td>51%</td>
<td>67%</td>
</tr>
<tr>
<td>4 Yr College</td>
<td>13%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Chicago CPC: Academic and Social Benefits at School Exit

## Economic Returns to Pre-K for Disadvantaged Children

(In 2006 dollars, 3% discount rate)

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
<th>Benefits</th>
<th>B/C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perry Pre-K</strong></td>
<td>$17,599</td>
<td>$284,086</td>
<td>16</td>
</tr>
<tr>
<td><strong>Abecedarian</strong></td>
<td>$70,697</td>
<td>$176,284</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Chicago</strong></td>
<td>$ 8,224</td>
<td>$ 83,511</td>
<td>10</td>
</tr>
</tbody>
</table>

Effects of Universal ECEC Globally

OECD test scores higher & more equal as participation approaches 100%

FR: universal preschool education improves long-term education outcomes and earnings (earlier is better)

UK, AR, UY: universal preschool raises long-term achievement

US: state and municipal UPK improves test scores and executive function

NO: increased access to child care improves education outcomes and equalizes earnings

CA (Quebec): universal low cost child care has negative effects cognitive development and social behavior

DK: higher quality universal child care increases long-term test scores in some studies, but not in others—quality matters
Enhanced Pre-K in Mauritius: Results of a Randomized Trial

Intervention: Nutrition, Education, & Exercise
Ages 3-5, teacher-child ratio 1:5.5 v. 1:30

Outcomes: Decreased behavior problems, conduct disorder, crime and mental illness at ages 17-23

Malnourished children gained more
Economic Returns in Middle and Low Income Countries

- Estimated returns are 6:1 to 18:1 from increased earnings alone.

- 25% increase in preschool education would yield an estimated return of US $10.6 billion worldwide.

Source: The Lancet, Volume 378, p. 1276, 8 October 2011
ECEC Lessons from around the Globe

Not all ECEC is equal: effects and returns depend on quality and quantity (if there is quality)

Quality teacher-child interaction depends on teacher skills and numbers of students per teacher

Teacher development requires a continuous improvement cycle with reflection & planning

Policy steps to quality: high standards for learning and teaching, adequate funding, monitoring and evaluation
Education Quality Matters

- Begin with a proven model
- Balanced—cognitive, social, emotional
- Implement the model as designed
- Well-trained, adequately paid staff
- Strong supervision and monitoring
- Use data to inform and reform practice
Conclusions

- ECEC *can* be a wise public investment
  - Increased hard and soft skills grow jobs and GDP
  - Decreased social problems reduces costs to society
- Universal ECEC can reduce educational inequality
- Quality is essential for high returns to ECEC
- A continuous improvement cycle is necessary to develop quality
- Quality costs—but a lack of quality ECEC already costs societies far more
References


