Closing the Gap in the School Readiness of Low-Income Children

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Full text paper available at http://aspe.hhs.gov
Organizing Questions

♦ Are there more effective ways of describing the gap in school readiness?

♦ Is it necessary to close the gap completely before children enter school?

♦ What have been the impacts of efforts to close the school readiness gap?
What is the Nature of the Gap?

♦ Multi-faceted
  - Physical (more asthma, dental disease)
  - Socio-emotional (more behavioral problems)
  - Language, literacy, math
Why Focus on Language and Early Literacy Gap?

- Limited measurement and intervention in other areas
- Usually measured by standardized tests that allow us to examine and describe data in different ways
- Foundational for school success
- Children who enter school without these skills do not catch up
Exhibit 1: Growth Trajectories of Two Groups of Children

*Children whose families are in repeated poverty (poverty at the time of the Fall K test and poverty at one or more subsequent measurement points).
Developing an Alternative Way to Describe the Gap

Strategy

- identify data sets including low-income preschoolers assessed with nationally-normed tests
- convert raw scores into age-equivalent scores for low-income group and norm sample
- assess difference in months of development
Exhibit 2: Size of the Language Achievement Gap

<table>
<thead>
<tr>
<th>Age span of children</th>
<th>Median deficit</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CCDP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 years to 3 years, 11 months</td>
<td>8.7 months</td>
<td>2541</td>
</tr>
<tr>
<td>4 years to 4 years, 11 months</td>
<td>13.8 months</td>
<td>2360</td>
</tr>
<tr>
<td>5 years to 5 years, 9 months</td>
<td>14.8 months</td>
<td>2878</td>
</tr>
<tr>
<td><strong>Even Start</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 years to 3 years, 11 months</td>
<td>8 months</td>
<td>2187</td>
</tr>
<tr>
<td>4 years to 4 years, 11 months</td>
<td>12 months</td>
<td>2805</td>
</tr>
</tbody>
</table>
Do We Have to Close the Gap Completely Before School?

- Size of gap is large and may be difficult to close in one year
- School itself is an intervention
- Is there a level short of the average level of achievement that would allow children to close the gap once in school?
Strategy for Investigating the Question

- Used ECLS-K longitudinal data on pre-reading/reading test
- Fall kindergarten IRT scaled scores used to sort children into deciles
- IRT scaled scores at four subsequent time points used to construct growth models for each decile
Exhibit 3: Growth Trajectories for Deciles Determined by Fall Kindergarten Score

Mean at Each Measurement Point for Deciles Determined by Fall Kindergarten Score

<table>
<thead>
<tr>
<th>Grade/Time</th>
<th>Mos point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall K</td>
<td>0 Mos</td>
</tr>
<tr>
<td>Spr K</td>
<td>9 Mos</td>
</tr>
<tr>
<td>Spr 1st</td>
<td>21 Mos</td>
</tr>
<tr>
<td>Spr 3rd</td>
<td>45 Mos</td>
</tr>
<tr>
<td>Spr 5th</td>
<td>69 Mos</td>
</tr>
</tbody>
</table>

Reading IRT Score

0.50 1.00 1.50
Exhibit 4: Growth Trajectories for Letter Recognition Subtest

Mean at Each Measurement Point for Deciles Determined by Fall Kindergarten Score

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</tr>
</tbody>
</table>
Exhibit 5: Growth Trajectories for Beginning Sounds Subtest

Mean at Each Measurement Point for Deciles Determined by Fall Kindergarten Score

Grade/Time Mos point
 Beginning Sounds Score
 0.0 0.2 0.4 0.6 0.8 1.0
 Fall K 0 Mos
 Spr K 9 Mos
 Spr 1st 21 Mos
 Spr 3rd 45 Mos
 Spr 5th 69 Mos
Exhibit 6: Growth Trajectories for Extrapolation Subtest

Mean at Each Measurement Point for Deciles Determined by Fall Kindergarten Score

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Extrapolation Score

0.0 0.2 0.4 0.6 0.8 1.0

Graph showing the growth trajectories over different measurement points with extrapolation scores.
Efforts to Close the Gap

- Head Start
- Two-generation programs (CFRP, CCDP, Even Start, Early Head Start)
- Curriculum-based interventions: Preschool Curriculum Evaluation Research (PCERS); Early Reading First; Interagency School Readiness Consortium(ISRC); Project Upgrade.
Impacts of These Efforts on Preliteracy Skills

- Head Start: modest effects on letter recognition, but focused interventions have increased effects
- Two-generation programs: no effects
- Curriculum-based interventions: range of effects from none to large. Some curricula tested repeatedly showed no impacts, a few showed moderate to large impacts
What Have We Learned?

- A few interventions have moved closer to the goal of closing the gap; none has closed it completely.

- Analyses of ECLS-K suggest there is probably no point short of closing the gap that prepares children adequately for school.

- The gap is large enough that a single year may not allow sufficient time to close the gap.
Some Questions

- How can we enlarge impacts?
  - expanding interventions to a year before or a year after preschool
  - improving kindergarten
  - identifying ways to involve parents more effectively in children’s early learning

- How should we continue to test interventions?
  - single site tests of different strategies
  - Use of Head Start, state prek programs as laboratories for multi-site testing of strategies
Some Questions

♦ What are the essential ingredients for success?
  - Dosage?
  - Professional development and support?
  - Expanding focus to include other aspects of readiness?