Increasing and Sustaining Gains in Early Education

Arthur J. Reynolds
Human Capital Research Collaborative
University of Minnesota

NCSL Fellows Conference, Minneapolis
August 18, 2014
Influences on Sustaining Gains

1. Program quality and dosage.

2. Family support and involvement.

3. School quality and support.


5. Continuing or follow-on services.
Common Paths from Early Childhood to Adult Well-Being

Early Childhood
Ages 3-9

Exogenous Conditions
Gender
Socio-Environmental Risk
Neighborhood Attributes

Program Participation
Timing
Duration
Intensity

MA = Motivational Advantage
CA = Cognitive Advantage
SA = Social Adjustment
FS = Family Support
SS = School Support

Ages 5-12

Motivation
Self-efficacy
Perceived competence
Persistence in learning

Developed Abilities
Cognitive development
Literacy skills
Pre-reading/numeracy skills

Social Adjustment
Classroom adjustment
Peer relations
Self-regulating skills

Family Support
Parent-child interactions
Home support for learning
Participation in school
Parenting skills

School Support
Quality of school environment
Classroom environment
School-level performance

Competence Behaviors
School Achievement and Performance
School Remediation
Delinquency and Crime
Child Maltreatment
Participation in Social Services
Health & Mental Health
Educational Attainment
Economic Well-Being
Family Circumstances

Adolescence to Adulthood
Finding: Full-Day PreK and Readiness

Percent at or above the national average

- **Language**: Full-day preschool: 81.5%; Part-day preschool: 61.7%
- **Math**: Full-day preschool: 84.4%; Part-day preschool: 72.3%
- **Socioemotional**: Full-day preschool: 73.4%; Part-day preschool: 56.0%
Finding: Full-Day PreK and Attendance

- Average attendance: 85.8% (Full-day preschool), 80.5% (Part-day preschool)
- 10%+ days missed: 71.5% (Full-day preschool), 53.1% (Part-day preschool)
- 20%+ days missed: 38.5% (Part-day preschool), 21.5% (Full-day preschool)

Percent at or above the national average
# Instructional Time Differences

<table>
<thead>
<tr>
<th>Format</th>
<th>Mean hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-day CPC</td>
<td>984</td>
</tr>
<tr>
<td>Part-day CPC</td>
<td>417</td>
</tr>
<tr>
<td>Duration</td>
<td>SPED Gr. 3</td>
</tr>
<tr>
<td>----------------</td>
<td>------------</td>
</tr>
<tr>
<td>1 year Prek</td>
<td>8.8%</td>
</tr>
<tr>
<td>2 years Prek</td>
<td>4.2%</td>
</tr>
<tr>
<td>0 years CPC</td>
<td>11.5%</td>
</tr>
</tbody>
</table>
Reading Advantage of CPC

![Graph showing the reading advantage of CPC across different ages and test scores. The graph compares CPC P+K, CPC Pk-3, and Nat. Norm.]
Midwest CPC Expansion Goals

1. Implement CPC with high levels of quality.
2. Assess the quality of implementation.
3. Evaluate the impact on achievement and parental involvement.
4. Assess impacts by child, family, and program attributes.
5. Determine initial cost-effectiveness.
6. Implement a sustainability plan.
Midwest CPC Core Elements

Collab. Leadership
HT, PRT, SCR with Principal

Effective Learning
Class size, Length, Balance

Curric. Alignment
Plan completed, integration

Parent Involvement
Plan completed, assessment

Prof. Development
Modules, On-line, Facilitation

Continuity & Stability
90%+ continuity K to 1 plus instructional supports
Midwest CPC Continuity

CPC program participation

Prek ———— 3rd

School & Program Context

Early Childhood Experience, Ages 3-4

School-Ready Proficiency
- Language
- Math
- Social-emotional
- Physical health
- Creative arts

Leadership
Effective Learning
Curric. Alignment
Parent Involve.
Prof. Develop.
Continuity

Early School Achievement, Performance, & Adjustment

C

High School Graduation

Leadership
Effective Learning
Curric. Alignment
Parent Involve.
Prof. Develop.
Continuity

A

B
More School Moves, Lower Achievement

4th Grade Reading Proficiency

<table>
<thead>
<tr>
<th>No moves</th>
<th>1 move</th>
<th>2 moves</th>
<th>3+ moves</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>22</td>
<td>17</td>
<td>12</td>
</tr>
</tbody>
</table>

Note. Data from NAEP
2014 cost per child Sp Ed: $15,944

Main effect P-3: Years Sp Ed: -1.20

Discounted at 3% and
70% cost recovery, age 14 $10,225

P-3 program cost per child: $10,000
Summarized Paths from CPC to Job Skills/Prestige from Reynolds & Ou (2011); Five-Hypothesis Model