Coordination and Collaboration across Early Childhood Education and Elementary Schools: Multiple Perspectives, Multiple Challenges

CCEEPRC
April 17th, 2019
Do High Quality Elementary School Classrooms Mitigate Preschool Fadeout? Examining the Sustaining Environments Hypothesis

Jade Marcus Jenkins

Coordination and Collaboration across Early Childhood Education and Elementary Schools: Multiple Perspectives, Multiple Challenges
CCEEPRC Annual Meeting 2019
Early Childhood Education and Fadeout

• Early childhood education (ECE) programs improve school readiness
  – Especially for low income children

• Primary policy tool to address disparities in early achievement

...But often the treatment impacts disappear in early elementary school
  – Some benefits reappear in adulthood
Figure 1: IQ impacts in Perry and Abecedarian

Solid marker denotes p<.05. IQ impacts are based on national norms

Bailey, Duncan, Odgers, & Yu, 2017, *JREE*
How can policy help to sustain short-term gains from preschool?

Provide high quality classroom or “sustaining environments” in elementary school

– High-quality instruction
  • Integrated with preschool instruction
– Advanced content instead of basic content
– Small class sizes
Sustaining Environments

• Ongoing post-program supports to “maintain children's positive attitudes and behavior and to encourage continued learning relevant to the children's lives” (Ramey & Ramey, 2006, p. 455)

• Early intervention impacts can be sustained only if they are followed by environments of sufficient quality to sustain normative growth
  – E.g., high-quality schools
    • ABC/Chapel Hill public schools vs. low-quality Ypsilanti schools

Bailey, Duncan, Odgers, & Yu, 2017, *JREE*
Today: Evidence of Sustaining Environments from two studies

1. Secondary data analysis of two preschool RCTs, examining moderation of preschool effects in K and G1
   Jenkins, Watts, et al., 2018, *JREE*

2. Meta-analysis of Sustaining Environments studies and the universe of possible factors to include in such studies
Study 1

We use two RCT Preschool interventions to test whether:

1. The quality of academic instruction in K and 1st grade sustains preschool intervention effects
2. A professional development intervention for K and 1st grade teachers sustains preschool intervention effects through improved classroom quality

→ Looking for interactions between preschool treatment and sustaining environments measures
   - e.g. (Treat*Advanced instruction)
1-year Preschool Interventions at Age 4

1. Head Start Impact Study
   • End of treatment effects: .1-.3 SD (Puma et al., 2010)
   • No treatment effects in K and 1st Grade (Puma et al., 2012)
   • Sust. Env. measure: Advanced literacy activities

2. Building Blocks TRIAD Study
   • Scale-up of preschool mathematics curriculum based on learning trajectories in public pre-k programs
   • End of treatment effects: .7 SD (Clements et al., 2011)
   • Treatment effects in K and 1st Grade: .1-.3 SD (Clements et al., 2012; 2013)
   • Sust. Env. measure: Math teaching quality, # math activities
## Study 1: Head Start Impact Study

### Results - Kindergarten

<table>
<thead>
<tr>
<th></th>
<th>(1) End of HS</th>
<th>(2) Spring of K; Teacher survey nonmissing</th>
<th>(3) Spring of K; Teacher survey nonmissing</th>
<th>(4) Spring of K; Teacher survey nonmissing</th>
<th>(5) Kindergarten classroom fixed effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>0.16*</td>
<td>-0.12+</td>
<td>-0.12+</td>
<td>-0.12+</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.06)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.32)</td>
</tr>
<tr>
<td>Total advanced literacy activities in K (times per month: std)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive effect for everyone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.12*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.05)</td>
</tr>
<tr>
<td>Total basic literacy activities in K (times per month: std)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.07)</td>
</tr>
<tr>
<td>Treat * Advanced literacy activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.12*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.05)</td>
</tr>
<tr>
<td>Treat * Basic literacy activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.08)</td>
</tr>
</tbody>
</table>

**Additional tests:** Class size, Full-day K, Classroom proportion low-income
## Building Blocks Scale-Up

### Results – Kindergarten

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of BB</td>
<td>0.66***</td>
<td>0.33***</td>
<td>0.32***</td>
<td>0.33**</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.08)</td>
<td>(0.08)</td>
<td>(0.09)</td>
</tr>
<tr>
<td>Spring of K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td>Math</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.04</td>
<td>0.03</td>
<td>0.13*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.04)</td>
<td>(0.06)</td>
<td>(0.05)</td>
</tr>
<tr>
<td></td>
<td>Math Teaching Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.04</td>
<td>0.03</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.06)</td>
<td>(0.05)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of Math Activities</td>
<td>0.13*</td>
<td>0.13+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treat * Math Teaching Quality</td>
<td></td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.08)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treat * Number of Math Activities</td>
<td></td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.08)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment with Follow-Through</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-Through * Math Teaching Quality</td>
<td></td>
<td></td>
<td>Positive effect for everyone</td>
</tr>
<tr>
<td></td>
<td>Follow-Through * Number of Math Activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>563</td>
<td>563</td>
<td>563</td>
<td>563</td>
</tr>
</tbody>
</table>

**Notes:**
- **Significance Levels:**
  - *** p < 0.001
  - ** p < 0.01
  - * p < 0.05
  - + p < 0.10

**Observations:** 876
# Building Blocks Scale-Up

## Results - 1st Grade

<table>
<thead>
<tr>
<th></th>
<th>(1) End of BB</th>
<th>(2) Spring of 1st Grade</th>
<th>(3) Spring of 1st Grade</th>
<th>(4) Spring of 1st Grade</th>
<th>(5) Spring of 1st Grade</th>
<th>(6) Spring of 1st Grade</th>
<th>(7) Spring of 1st Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td>0.67***</td>
<td>0.16*</td>
<td>0.15*</td>
<td>0.17*</td>
<td>0.18*</td>
<td>0.17*</td>
<td>0.17*</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.08)</td>
<td>(0.06)</td>
<td>(0.08)</td>
<td>(0.08)</td>
<td>(0.06)</td>
<td>(0.08)</td>
</tr>
<tr>
<td><strong>Mathematics Teaching Quality</strong></td>
<td>0.02</td>
<td>-0.02</td>
<td></td>
<td>0.03</td>
<td></td>
<td>(-0.03)</td>
<td>(0.05)</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.06)</td>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Math Activities</strong></td>
<td>0.14**</td>
<td>0.20*</td>
<td>0.15***</td>
<td>0.13***</td>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.08)</td>
<td></td>
<td>(0.04)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treat * Mathematics Teaching Quality</strong></td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treat * Number of Math Activities</strong></td>
<td>-0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treatment with Follow-Through</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.32***</td>
<td>0.32***</td>
<td>0.33***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.09)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Follow-Through * Mathematics Teaching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Follow-Through * Number of Math Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observations: 563 563 563 563 563

More fadeout in G1... but less for FT condition.
Study 1: Summary and Implications

Both preschool interventions worked in short-term...

→ Under what conditions do the effects persist in the intermediate-term?
- BB had initial strong impact, HS modest impact
- Full fadeout in HSIS
- Sustained effects in BB when teacher PD provided, but PD did not operate through our measures of classroom quality
Study 2: Sustaining Environments Meta-Analysis

Meta-analysis of studies that report an interaction between early childhood intervention and measure of later educational quality
Part I: Plots of effect sizes for included studies

Main effects of preschool

Main effects of elementary sustaining environment

Preschool*SE interaction terms

Hovering around 0

Negative main effects of preschool and SE
ECLS-K 1998 (used in the majority of prior studies)

**Idea:** explore all *plausible specifications* for estimating sustaining environment interactions with preschool

1. Various levels of statistical controls (covariates)
2. Differing preschool inclusion criteria:
   - Head Start incl./excl., combined w. other age-4 ECE
3. Various sustaining environments measures:
   - K Class size
   - Full-day K
   - K transition practices,
   - School % at grade level in reading/math
   - Advanced reading and math activities in K class
Results: All Specifications and Effect Sizes

Variations in the specifications

- Outcome
  - Math
  - Reading

Sustaining environment
- School % at grade level (std.)
- K Transition practices (1-6)
- Small class size
- Full-day K
- Advanced Math Activities per month (std.)
- Advanced Reading activities per month (std.)

Control Variables
- Full Demog. + Teacher Controls
- Full Demographic Controls
- Basic Demographic Controls
- No Controls

Preschool Definition
- Preschool & Head Start vs. Home
- Head Start vs. Home
- Preschool- No Head Start vs. Home

Sustaining Environment Interaction Coefficient

End of K skills

Specification #
Overall Summary of Findings

• Quality, quantity, and level of classroom instruction did not moderate treatment effect persistence
  – Strongest persistence with follow-through PD in K and 1st Grade
  – Advanced content helps, Basic hurts

• No strong evidence that different types of specifications yield positive findings of sustaining K environments
Tentative Explanations

1) The null hypothesis
2) Lack of power: small main effect estimates < .2
3) Theoretical ambiguity:
   • What are the specific mechanisms?
   • What to do when main effects of “education quality” measures are negative?
4) Heterogeneity
   • We know this is true for ECE, but need big sample and big effects to test SE hypothesis
Implications

• Keep intervening in PK-3
  – Sustained effects from BB study FT condition not simply from increasing classroom quality, as captured by observational measures
  – FT condition was not fully integrated curriculum or intervention; ITT

• Future research on what PK-3 would look like
  – Integrated curriculum
  – Peer composition
Limitations

• Associational; Sustaining environments not randomly assigned
  – Checks for selection into school and classroom environments
  – Strong selection into preschool and SE in ECLS-K
• Teacher & parent survey response bias, attrition
• Empirically supported curriculum in BB but not HS
• ECLS-K may be underpowered
Acknowledgements

Co-authors

**Study 1:** Tyler Watts, Elizabeth Gershoff, Katherine Magnuson, Douglas Clements, Julie Sarama, Greg Duncan,  
**Study 2:** Drew Bailey, Daniela Alvarez-Vargas

Research supported by:

- **NIH NICHD**
  - Award # P01HD065704 (Duncan, Farkas)
  - Award # R01HD06956 (Gershoff)
- **IES**
  - Award # R305B120013 (Duncan)
  - Award # R305K05157 (Clements)
  - Award # R305A120813 (Clements)

The content is solely the responsibility of the authors and does not necessarily represent the official views of NIH, IES, or NSF.
Thank you!

jvjenkin@uci.edu
Meta-analysis of studies that report an interaction between early childhood intervention and measure of later educational quality

Bailey, Jenkins, & Alvarez-Vargas, in prep.
Analysis

• OLS with clustered SEs, R.A. unit fixed effects
  – Incl. Treatment x Environment terms
  – Environment NOT randomly assigned; associational estimates

• Controls
  – Baseline skill composite score
  – Race
  – Gender
  – Mother’s education
  – English proficiency
  – Special needs

• IPT weights in HSIS to account for differential attrition (Bitler et al., 2014)

• Kindergarten Classroom Fixed Effect for HSIS only
Study 1: Head Start Impact Study Data

- Congressionally mandated evaluation of HS programs, 2002-2006
- Randomly assigned children to receive HS based on center of application
  - First-time participants; Age-4 cohort with K and 1\textsuperscript{st} grade outcomes (n≥1500) & teacher responses (n≥1100)
  - Nationally representative of HS programs & children
- Counterfactual conditions varied
- Treatment curricula varied
Study 1: Head Start Impact Study

Measures

• Literacy and Language Skills
  – Composite of standardized scores from:
    • PPVT
    • WJ Letter-Word ID
    • WJ Spelling

• Classroom Environment
  – Teacher report on literacy activities (times per mo.) in K and 1\textsuperscript{st} grade
    • Basic activities, Advanced activities
### Selection into Kindergarten Classrooms: HSIS

<table>
<thead>
<tr>
<th></th>
<th>(1) Total advanced literacy activities (times per month; std)</th>
<th>(2) Total basic literacy activities (times per month; std)</th>
<th>(3) Yrs. teaching exp. (Teacher)</th>
<th>(4) HS or below (Teacher)</th>
<th>(5) Some college (Teacher)</th>
<th>(6) Associates (Teacher)</th>
<th>(7) College (Teacher)</th>
<th>(8) College+ (Teacher)</th>
<th>(9) Pre-k teaching license</th>
<th>(10) Elementary teaching license</th>
<th>(11) Full-day K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td>-0.029</td>
<td>-0.100</td>
<td>-0.803</td>
<td>0.002</td>
<td>0.010</td>
<td>0.001</td>
<td>-0.012</td>
<td>-0.000</td>
<td>-0.025</td>
<td>0.001</td>
<td>-0.052**</td>
</tr>
<tr>
<td><strong>Obs</strong></td>
<td>1075</td>
<td>1075</td>
<td>1062</td>
<td>1071</td>
<td>1071</td>
<td>1071</td>
<td>1071</td>
<td>1071</td>
<td>1003</td>
<td>1003</td>
<td>1008</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>(12) Classroom num LEP students</th>
<th>(13) Classroom num FRPL eligible</th>
<th>(14) Class size</th>
<th>(15) Teaching assistant</th>
<th>(16) Percent of school children black</th>
<th>(17) Percent of school children eligible for free/reduced lunch</th>
<th>(18) Percent of school children Hispanic</th>
<th>(19) Percent of school children white</th>
<th>(20) School proficiency level in math</th>
<th>(21) School proficiency level in reading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td>0.041</td>
<td>-0.188</td>
<td>-0.325</td>
<td>-0.010</td>
<td>0.005</td>
<td>0.018</td>
<td>0.032</td>
<td>-0.033</td>
<td>-1.608</td>
<td>-1.309</td>
</tr>
<tr>
<td><strong>Obs</strong></td>
<td>1006</td>
<td>821</td>
<td>971</td>
<td>992</td>
<td>925</td>
<td>898</td>
<td>925</td>
<td>925</td>
<td>928</td>
<td>927</td>
</tr>
</tbody>
</table>

*Note: The table presents the results of an analysis of selection into Kindergarten classrooms at HSIS. The treatment group is compared to the control group on various educational and demographic variables. The numbers in parentheses are standard errors.*
Study 2: Building Blocks Scale-Up Data

• TRIAD- Building Blocks Scale Up Evaluation (Clements et al., 2011; 2012; 2013)

• Randomly assigned 42 low-income schools in NY and MA to one of three conditions:
  – Building Blocks Curriculum
  – Control (Pre-k business as usual)
  – Building Blocks Curriculum w/ Follow-Through

• Randomly sampled 1375 students entering preschool from these schools
Study 2: Building Blocks Scale-Up

Measures

• Math Skills
  – Research-based Early Math Assessment (REMA)
    • Designed for children ages 3-8
    • Counting, patterning, operations, geometry, measurement etc.
    • Rasch-IRT

• Classroom Environment
  – Classroom Observation of Early Mathematics-Environment and Teaching (COEMET)
    • Assessed at least once during K and 1st Grade
    • Observers (blind to treat) recorded # of math activities, coded for teaching practices known to facilitate math learning
  – Number of math activities
Selection into Kindergarten Classrooms: Building Blocks

<table>
<thead>
<tr>
<th></th>
<th>(1) Total math activities observed</th>
<th>(2) Math instructional quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>0.01</td>
<td>-0.06</td>
</tr>
<tr>
<td></td>
<td>(0.20)</td>
<td>(0.29)</td>
</tr>
<tr>
<td>Treatment with follow-through</td>
<td>0.38+</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>(0.21)</td>
<td>(0.17)</td>
</tr>
<tr>
<td>Observations</td>
<td>876</td>
<td>876</td>
</tr>
</tbody>
</table>
Appendix A. Coding scheme for instructional quality of literacy activities in the Head Start Impact Study

<table>
<thead>
<tr>
<th>Kindergarten literacy activities</th>
<th>First grade literacy activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listen to stories with no print</td>
<td>Activity related to book</td>
</tr>
<tr>
<td>Show child how to read a book</td>
<td>Write letters of alphabet</td>
</tr>
<tr>
<td>Write own name</td>
<td>Learn names of letters</td>
</tr>
<tr>
<td>Teach directional words like over and</td>
<td>Have children tell you a story</td>
</tr>
<tr>
<td>Write letters of the alphabet</td>
<td>Practice sounds letters make</td>
</tr>
<tr>
<td>Learn the names of letters</td>
<td>Listen to stories w. print</td>
</tr>
<tr>
<td></td>
<td>Read books chosen by child</td>
</tr>
<tr>
<td></td>
<td>Read text w controlled vocab</td>
</tr>
<tr>
<td></td>
<td>Read text w strong phonemic pattern</td>
</tr>
<tr>
<td></td>
<td>Read patterned or predictable text</td>
</tr>
<tr>
<td></td>
<td>Hear storytellers</td>
</tr>
<tr>
<td></td>
<td>Language activities in mixed achievement groups</td>
</tr>
<tr>
<td></td>
<td>Discuss new words</td>
</tr>
<tr>
<td></td>
<td>Read aloud</td>
</tr>
<tr>
<td></td>
<td>Read silently</td>
</tr>
<tr>
<td></td>
<td>Work in reading workbook</td>
</tr>
<tr>
<td></td>
<td>Write words from dictation</td>
</tr>
<tr>
<td></td>
<td>Use invented spellings</td>
</tr>
<tr>
<td></td>
<td>Read thematic text</td>
</tr>
<tr>
<td></td>
<td>Compose stories or reports</td>
</tr>
<tr>
<td></td>
<td>Publish child's writing</td>
</tr>
<tr>
<td></td>
<td>Perform plays/skits</td>
</tr>
<tr>
<td></td>
<td>Write stories in journal</td>
</tr>
<tr>
<td>Discuss new words</td>
<td>advanced</td>
</tr>
<tr>
<td>Have children tell you a story</td>
<td>advanced</td>
</tr>
<tr>
<td>Practice the sounds that letters make</td>
<td>advanced</td>
</tr>
<tr>
<td>Listen to stories with print</td>
<td>advanced</td>
</tr>
<tr>
<td>Rhyming words and families</td>
<td>advanced</td>
</tr>
</tbody>
</table>
Home Environment Moderation

- **HSIS:** Parent survey report on literacy activities (1-4) and general home learning activities (0/1) at end of treatment
  - Parent’s Education
### Study 1: Head Start Impact Study

#### Results

**Sustaining Home- Kindergarten**

<table>
<thead>
<tr>
<th></th>
<th>(1) End of HS</th>
<th>(2) Spring of K</th>
<th>(3) Spring of K: Mom ed. &amp; home literacy activities</th>
<th>(4) Spring of K: Mom ed. &amp; home literacy activities</th>
<th>(5) Spring of K: Mom ed. &amp; home learning activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>0.16*</td>
<td>-0.06</td>
<td>-0.10</td>
<td>-0.06</td>
<td>-0.11</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.06)</td>
<td>(0.07)</td>
<td>(0.09)</td>
<td>(0.33)</td>
</tr>
<tr>
<td>&gt; High School deg.</td>
<td></td>
<td></td>
<td>0.43**</td>
<td>0.52**</td>
<td>0.50**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.07)</td>
<td>(0.11)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>Home literacy activities</td>
<td>0.15**</td>
<td>0.20**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.04)</td>
<td>(0.06)</td>
<td></td>
</tr>
<tr>
<td>Home learning activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.02)</td>
</tr>
<tr>
<td>Treat * &gt; High School deg.</td>
<td></td>
<td></td>
<td></td>
<td>-0.15</td>
<td>-0.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.15)</td>
<td>(0.16)</td>
</tr>
<tr>
<td>Treat * Home literacy activities</td>
<td></td>
<td></td>
<td></td>
<td>-0.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.07)</td>
<td></td>
</tr>
<tr>
<td>Treat * Home learning activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.02)</td>
</tr>
</tbody>
</table>

**Observations**

|                  | 1632 | 1449 | 1449 | 1449 | 1449 |

## Study 2: Building Blocks Scale-Up

### Results

**Kindergarten – Sustaining Home**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>End of BB</td>
<td>Spring of K</td>
<td>Spring of K</td>
<td>Spring of K</td>
</tr>
<tr>
<td>Treatment</td>
<td>0.64*** 0.08</td>
<td>0.32*** 0.08</td>
<td>0.32*** 0.08</td>
<td>0.34*** 0.09</td>
</tr>
<tr>
<td>&gt; High School deg.</td>
<td>0.12+ 0.06</td>
<td>0.14 0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home learning activities</td>
<td>0.04 0.05</td>
<td>0.01 0.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat * &gt; High School deg.</td>
<td>-0.03 (0.13)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat * Home learning activities</td>
<td>0.04 0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observations 555 555 555 555
Head Start effects through 1st Grade: Interactions with Sustaining Environments

- Treatment
- High Advanced Instruction
- High Basic Instruction
- Parent Education > HS
- High Home Learning

End of Treatment | Kindergarten | Grade 1
---|---|---
-0.2 | -0.1 | 0
0.1 | 0.2 | 0.3
0.4 | 0.5 | 0.6
0.7 |
Building Blocks effects through 1st Grade: Interactions with Sustaining Environments

- Treatment
- High COEMET
- High Math Activities
- High Home Learning
- Parent Ed > HS
- Follow-Through

Y-axis: 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0, -0.1, -0.2
X-axis: End of Treatment, Kindergarten, Grade 1

* indicates significant differences
Examining the benefits of Head Start efforts to coordinate with elementary schools around the transition to kindergarten

CCEEPRC
April 17-18, 2019

Kyle DeMeo Cook, Ph.D.
Education Development Center
This project was generously supported by the Head Start Graduate Research Scholars Program, Grant Number 90YR0100 to Boston College, from the Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. The contents are solely the responsibility of the author and do not necessarily represent the official views of the Office of Planning, Research and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.
Transitioning Across Systems

- How do preschool programs and elementary schools work together to support children as they transition across them?

- What are the benefits to children when preschools and elementary schools coordinate with one another?
Transition to School Matters

• Transition to school as a major life event

• To understand preschool “fade out” must consider the child’s next developmental context

• Policy context of PK-3rd Movement, Head Start requirements and ESSA

• More research needed to guide policy and practice
What does existing research say about coordination?

- Two studies in the US show that more transition practices done by kindergarten teachers are related to positive academic and prosocial skills, particularly practices focused on parents. (Cook & Coley, 2017; Schulting, Malone & Dodge, 2005).

- One study in the US found that more transition practices done by preschools was related to better outcomes in kindergarten, with sharing information as a key practice. (LoCasale-Crouch, et al. 2008)

- Two international studies show that sharing information about children and general programming is related to better adjustment at the start of school. (Cook, Dearing & Zachrisson, 2017; Ahtola et al, 2011)
Project Objectives

• Describe coordination practices that Head Start programs are engaging in with elementary schools.

• Examine the relationship between Head Start-elementary school coordination practices and child outcomes.

• Explore the benefits and challenges to coordination efforts.
Two Connected Studies

National Head Start Data

- Head Start FACES Data
- Data collected and funded by ACF
- About 2,000 children
- Nationally representative of children in Head Start in 2009

Local Head Start Interviews

- Primary data collection
- Interviews with 16 Head Start leaders
- Recruited through one state Head Start Association in northeast
How does Head Start coordinate with elementary schools?

National Data Findings
Head Start FACES Data 2009

SAMPLE

- Analytic Sample N=2,019 children

- Data Used:
  - First Preschool Year (3 & 4 year olds)
  - Spring of Kindergarten
Which coordination practices are Head Start centers using to support the transition to school?

<table>
<thead>
<tr>
<th>Coordination Practices: Head Start to Elementary Schools (reported by Head Start director)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participate in development of individualized education plans (IEPs)</td>
<td>91%</td>
</tr>
<tr>
<td>Provide Head Start records for children</td>
<td>86%</td>
</tr>
<tr>
<td>Help schools identify kindergarten students</td>
<td>85%</td>
</tr>
<tr>
<td>Meet with kindergarten teacher at school</td>
<td>76%</td>
</tr>
<tr>
<td>Share curriculum information</td>
<td>74%</td>
</tr>
<tr>
<td>Share expectations</td>
<td>73%</td>
</tr>
<tr>
<td>Share program policy information</td>
<td>69%</td>
</tr>
<tr>
<td>Joint trainings</td>
<td>65%</td>
</tr>
<tr>
<td>Coordination sum index</td>
<td>Mean=6.12</td>
</tr>
</tbody>
</table>
Is Head Start engagement in coordination practices associated with children’s increased academic and social skills in kindergarten?

- Meeting with kindergarten teachers at school was related to higher language scores in kindergarten.

- More Head Start coordination practices was related to higher math and language skills for children who attended kindergarten classrooms with lower reports of general transition practices.

- Children in Head Start programs with an education coordinator responsible for the transition to kindergarten had higher social skills.
How does Head Start coordinate with elementary schools?

Local Interview Findings
Reported Coordination Practices

Collaborating about special education needs of children
Attending each other’s events
Sharing data on children
Sharing information or joint planning on program, curriculum, standards, assessment
Participating in community councils or other community or school committees together
Meeting in person
Organizing and attending joint professional development
Planning classroom observations for teachers
Supporting, promoting, and ensuring children are registered for kindergarten enrollment
Planning a kindergarten parent night with elementary representation
Promoting district and elementary school sponsored activities
Providing parents with child assessment data to share with schools
Planning visits for children and families to elementary schools

Number of Interviews Reporting Each Coordination Practice

Information sharing activities:
Head Start connecting with elementary schools

Bridging activities:
Head Start serving as a bridge connecting children and families to elementary

Fig. 1. Frequency of interviews citing information sharing and bridging coordination practices.
What are the benefits of coordination?
Elementary Schools

Head Start

Knowledge Transfer: Shares information about specific children

Alignment: Share general information between

Bridging: Head Start serves as a bridge between families and schools

Benefits for Children
- Increased positive adjustment at school start
- Increased social and academic outcomes in kindergarten
Who benefits from coordination?

“If we can help the kindergarten teachers just by giving them the information that we have...hopefully they’ll be able to tap into that stuff and their teaching can be more effective with that child.” —Director #6

“I also think transition really when it comes down to it, is more beneficial to the families/the parents of it’s a lot less stressful to send their babies off to kindergarten when they kind of have a clue of what they’re going.” —Director #6

“So through those meetings we learn an awful lot about what they’re doing and we try to input it...through the whole program.” —Director #7

“I do believe that by sharing curriculum that we are going to see some higher results and definitely a smoother connection when kids start kindergarten.” —Director #12
**Hypothesis/Assumption**

**Head Start**

- **Knowledge Transfer:** Shares information about specific children
- **Alignment:** Share general information between
- **Bridging:** Head Start serves as a bridge between families and schools

**Benefits for Children**

- Increased positive adjustment at school start
- Increased social and academic outcomes in kindergarten
Proposed Conceptual Model

Head Start-Elementary School Coordination Practices

Knowledge Transfer:
Head Start programs share information with elementary schools about specific children

Alignment:
Head Start shares and receives information about programming, curriculum and assessments to support alignment with elementary schools

Connecting Families:
Head Start serves as a bridge between families and elementary schools

Perceived Benefits to Head Start Programs, Elementary Schools and Families According to Directors

Elementary schools change practices to build upon where children are coming from and have a better understanding of how to support children academically and socially at school start

Head Start programs change practices to better support children’s school readiness skills and align with elementary schools

Families have an increased comfort level with school and transition process, lower stress levels around registration processes and other logistics of the transition, and increased involvement in elementary school

Potential Benefits to Children

Benefits for Children include a smoother adjustment to kindergarten, including better initial social and academic adjustment and a more successful kindergarten year.

Note: This figure illustrates how Head Start directors view benefits of coordination with elementary schools. The final column shows how the authors propose that these benefits may extend to children. Since the benefits to children were not directly stated by participants they are represented in a box with a dotted line.

Fig. 2. Conceptual model linking Head Start-elementary school coordination practices and benefits.
Proposed Indirect Pathways

**Head Start-Elementary School Coordination Practices**

- **Knowledge Transfer:** Head Start programs share information with elementary schools about specific children

- **Alignment:** Head Start shares and receives information about programming, curriculum, and assessments to support alignment with elementary schools

- **Connecting Families:** Head Start serves as a bridge between families and elementary schools

**Perceived Benefits to Head Start Programs, Elementary Schools and Families According to Directors**

- **Elementary schools** change practices to build upon where children are coming from and have a better understanding of how to support children academically and socially at school start

- **Head Start programs** change practices to better support children’s school readiness skills and align with elementary schools

- **Families** have an increased comfort level with school and transition process, lower stress levels around registration processes and other logistics of the transition, and increased involvement in elementary school
Keys to Success

- Relationships are key
- Co-location helps
- Meeting in person builds positive connections

Room for Improvement

- More in-person connections
- Include teachers
- Logistics
Big Takeaways

• Head Start is initiating a lot of coordination activities

• Meeting in person may indicate more intensive coordination and strong relationships

• Benefits and direct relationships to child outcomes are unclear

• More research is needed
Future Research

• Both quantitative and qualitative research is needed.

• Quantitatively test indirect pathways in conceptual model.

• Qualitative research on what supports, information and coordination activities elementary schools need.

• Conduct research that includes the full mixed delivery system.
For More Information

- Email: kdemeo@edc.org


Selected References


Understanding Policies and Practices that Support Successful Transitions to Kindergarten: Opportunities for Connection and Collaboration

Kelly Purcell
The Ohio State University
Early Learning Team

Investigators:
Dr. Laura Justice
Dr. Tzu-Jung Lin
Dr. Jessica Logan
Dr. Kelly Purtell

Key Project Staff & Students:
Jennifer Bostic
Allie Hamilton
Janelle Williamson
Katie Filibeck
Lauren Barnes
Anna Rhoad-Drogalis
Hui Jiang
Jing Chen
Anne Valauri
Lasting Importance of Early Childhood Education

▷ Access to preschool/ECE has increased in recent years.
  ○ State and city initiatives
  ○ Federal early learning grants

▷ However, there is an ever growing body of evidence suggesting that preschool impacts ‘fadeout’ early in elementary school.
The Early Learning Network Project

Goal: To document the classroom ecology experienced by children in preschool and early elementary school

- Classroom Ecology: Theorized Dimensions
  - Classroom Composition
  - Classroom Network & Norms
  - Teacher Practices
  - Student Experiences
The Early Learning Network Project

- **Study 1:** A longitudinal study focused on preschool attenders and non-attenders from age 4 through grade 3

- **Study 2:** A cross-sectional, observation study of classrooms focused on preschool to grade 3

- **Study 3:** A qualitative policy study focused on state-, district-, school- and classroom-level policies and practices linked to classroom ecology
The Challenges of the Kindergarten Transition

▷ New Environment

▷ New Expectations

▷ New Systems
How can Systems Support the Transition to Kindergarten?

▷ P3 Alignment Movement
  ○ Classroom academic content

▷ Kindergarten Transition Practices
  ○ Connection focused

▷ Both of these require systems-level coordination to implement
Research Questions

▷ How much do kindergarten teachers and school administrators know about their students’ preschool experiences?

▷ What practices do they implement to ease the transition to kindergarten?

▷ What barriers do they face to implementation? What role do policy-level factors play in this?
Study Methodology

▷ Designed to provide a comprehensive overview of Early Learning practice and policy across Ohio

▷ Interviews across the state with district personnel and stakeholders
  ○ District personnel: Superintendent’s office, school board member, elementary school principal, elementary school teachers, preschool directors and teachers (11 districts)
  ○ Stakeholders: ODE, Educational Service centers, Community groups (10+ interviews)

▷ Record and transcribe all interviews
  ○ Thematic coding
What do Elementary Schools Know about their Students’ Preschool Experiences?

- Who attended preschool?
- Mixed feelings about what is preschool
- Importance of preschool
  - Helpful for kindergarteners
  - Implications for 3rd grade reading guarantee
What Efforts do Different Sectors make to Ease the Transition to Kindergarten for Children and Families?

- In community preschool programs:
  - Varied– provided info to elementary schools

- In district preschool programs:
  - Visits with kindergarteners
  - IEP transitions are well-supported

- In kindergarten:
  - Some formal practices
  - Extensive outreach to parents (informal)
What Barriers do Systems Face when Trying to Provide Support during the Kindergarten Transition?

▷ Lack of connection to different preschool sectors
  ○ Even when preschool is part of district
    ■ Is preschool ‘school’?
  ○ Community preschools
    ■ Very little connections to elementary schools (with some exceptions)

▷ Additional policy-related challenges
  ■ Late enrollment & School choice
  ■ QRIS requirements
Conclusions

▷ Despite increases in preschool availability, connections between ECE providers and school districts is limited.

▷ In order to improve children’s school success, barriers to communication and collaboration need to be removed.

▷ Policies and events unrelated to the transition still shape schools’ ability to help children build connections.