Executive Summary – Proficiency in Reading and Math at 3rd grade
Differences by Poverty Status and Race
Gap Closure and Gains Associated with First Class Pre-K

I. Introduction and Methods

These results are for one group of children who entered Alabama public schools in Kindergarten during the 2013 school year and who continued to be enrolled in Alabama public schools during the 2016 school year (sample size = 59,346). Based upon Kindergarten entry, these children should have matriculated to 3rd grade at the time of these analyses. Children who received First Class Pre-K were identified (sample size = 3,543 or 6% of total). Demographic data, including free or reduced lunch status, were gathered from Alabama State Department of Education data collection as extracted from the iNow (Chalkable) student data system. Children were considered poverty/low income based on receipt of free or reduced lunch. [NOTE: This was the standard method for determining income status at the time of these analyses. Future analyses will be based on direct certification.] See Appendix for full sample demographics.

Individual student performance on the 3rd grade ACT Aspire exam (2016) was analyzed. Grade placement was determined as of the beginning of the 2016 school year with students classified as retained if they had ever been held back in a grade (Kindergarten through 3rd grade).

Proficiency in reading and/or math was defined according to a two-prong approach based on both ACT Aspire performance and retention. Students were classified as proficient only if they met both prongs of the definition:

Proficiency =

1. Student scored level 3 or 4 on ACT Aspire test

   AND

2. Student is in expected grade based on when entered Kindergarten/has never been retained

   (i.e., students classified as proficient in these analyses scored proficient on test and were in correct grade for age)

Analyses were completed on behalf of the Alabama Department of Early Childhood Education by the multi-disciplinary Pre-K Research Evaluation Team, which includes researchers and data specialists from the UAB School of Public Health, the UAB School of Education, the Public Affairs Research Council of Alabama (PARCA), and ThinkData Solutions. Full report with graphs and calculations available separately.
II. Summary of Findings – Implications of these analyses for this group of 3rd graders

➢ Despite large differences in both reading and math proficiency based on income status and racial/ethnic minority group, First Class Pre-K narrows the gap in proficiency, bringing these children closer to statewide proficiency levels. The magnitude of gap closure to statewide observations ranges from 28% for reading proficiency for children in poverty to 71% for math proficiency for Hispanic children in poverty. The largest gap closures were observed for children in poverty and for Black and Hispanic children.

➢ Further, children in poverty and/or who are members of racial/ethnic minority groups who received First Class Pre-K outperformed their peers who did not receive First Class Pre-K, resulting in gains or increases in proficiency compared to what might otherwise be expected based on observed proficiency levels for children in poverty and/or racial/ethnic minorities overall. Gains ranged from 3% for reading proficiency for White children in poverty to 25% for reading proficiency for Hispanic children in poverty. The largest gains were observed for Black and Hispanic children.

III. Results

A. Reading Proficiency – 3rd grade

   i. Income Status

<table>
<thead>
<tr>
<th></th>
<th>Statewide</th>
<th>Non-Poverty</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34.1%</td>
<td>53.3%</td>
<td>23.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial Status</th>
<th>FCPK</th>
<th>No-FCPK</th>
<th>FCPK Poverty to Statewide</th>
<th>FCPK Poverty over Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>26.5%</td>
<td>23.5%</td>
<td>28%</td>
<td>12%</td>
</tr>
</tbody>
</table>

➢ First Class Pre-K closes the gap in reading proficiency by 28% for children in poverty compared to observed statewide proficiency levels.
➢ First Class Pre-K for children in poverty provides a 12% gain (increase) in reading proficiency over and above proficiency levels observed for children in poverty overall.
## ii. Race/Ethnicity and Income Status

### Black and Black Poverty

<table>
<thead>
<tr>
<th></th>
<th>Statewide</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34.1%</td>
<td>44.1%</td>
<td>19.9%</td>
<td>19.9%</td>
<td>60.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>White Poverty</th>
<th>Black Poverty</th>
<th>Hispanic Poverty</th>
<th>Asian Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31.1%</td>
<td>17.5%</td>
<td>18.4%</td>
<td>46.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FCPK</td>
<td>23.8%</td>
<td>29%</td>
<td>20%</td>
<td>8%</td>
<td>23%</td>
</tr>
<tr>
<td>No-FCPK</td>
<td>19.5%</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. FCPK</td>
<td>21.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. No-FCPK</td>
<td>17.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- First Class Pre-K **closes the gap** in reading proficiency by **29%** for Black children compared to observed statewide proficiency levels.
- First Class Pre-K **closes the gap** in reading proficiency by **26%** for Black children in poverty compared to observed statewide proficiency levels.
- First Class Pre-K for Black children provides a **20% gain** (increase) in reading proficiency over and above proficiency levels observed for Black children overall.
- First Class Pre-K for Black children in poverty provides an **8% gain** (increase) in reading proficiency over and above proficiency levels observed for Black children overall.
- First Class Pre-K for Black children in poverty provides a **23% gain** (increase) in reading proficiency over and above proficiency levels observed for Black children in poverty overall.
## Hispanic and Hispanic Poverty

<table>
<thead>
<tr>
<th>Statewide</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.1%</td>
<td>44.1%</td>
<td>19.9%</td>
<td>19.9%</td>
<td>60.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Black Poverty</th>
<th>Hispanic Poverty</th>
<th>Asian Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.1%</td>
<td>17.5%</td>
<td>18.4%</td>
<td>46.5%</td>
</tr>
</tbody>
</table>

### Gap Closure and Gain

<table>
<thead>
<tr>
<th>Hispanic</th>
<th>Hispanic Poverty</th>
<th>Gap Closure: FCPK Hispanic to Statewide</th>
<th>Gap Closure: FCPK Hispanic Poverty to Statewide</th>
<th>Gain: FCPK Hispanic over Hispanic</th>
<th>Gain: FCPK Hispanic Poverty over Hispanic</th>
<th>Gain: FCPK Hispanic Poverty over Hispanic Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCPK</td>
<td>No-FCPK</td>
<td>23.8</td>
<td>19.7</td>
<td>21.6</td>
<td>17.2</td>
<td>26%</td>
</tr>
<tr>
<td>FCPK</td>
<td>No-FCPK</td>
<td>26%</td>
<td>31%</td>
<td>18%</td>
<td>16%</td>
<td>25%</td>
</tr>
</tbody>
</table>

- First Class Pre-K **closes the gap** in reading proficiency by **26%** for Hispanic children compared to observed statewide proficiency levels.
- First Class Pre-K **closes the gap** in reading proficiency by **31%** for Hispanic children in poverty compared to observed statewide proficiency levels.
- First Class Pre-K for Hispanic children provides an **18% gain** (increase) in reading proficiency over and above proficiency levels observed for Hispanic children overall.
- First Class Pre-K for Hispanic children in poverty provides a **16% gain** (increase) in reading proficiency over and above proficiency levels observed for Hispanic children overall.
- First Class Pre-K for Hispanic children in poverty provides a **25% gain** (increase) in reading proficiency over and above proficiency levels observed for Hispanic children in poverty overall.
White Poverty

*Comparisons for White were limited to White Poverty only as White proficiency was above Statewide proficiency at outset.

<table>
<thead>
<tr>
<th></th>
<th>Statewide</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34.1%</td>
<td>44.1%</td>
<td>19.9%</td>
<td>19.9%</td>
<td>60.8%</td>
</tr>
</tbody>
</table>

White Poverty

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Black Poverty</th>
<th>Hispanic Poverty</th>
<th>Asian Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Poverty</td>
<td>31.1%</td>
<td>17.5%</td>
<td>18.4%</td>
</tr>
<tr>
<td></td>
<td>46.5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Gap Closure:</th>
<th>Gain:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FCPK White Poverty to Statewide</td>
<td>FCPK White Poverty over White Poverty</td>
</tr>
<tr>
<td>FCPK</td>
<td>32.0</td>
<td>32%</td>
</tr>
<tr>
<td>No-FCPK</td>
<td>31.0</td>
<td>3%</td>
</tr>
</tbody>
</table>

➢ First Class Pre-K closes the gap in reading proficiency by 32% for White children in poverty compared to observed statewide proficiency levels.
➢ First Class Pre-K for White children in poverty provides a 3% gain (increase) in reading proficiency over and above proficiency levels observed for White children in poverty overall.

B. Math Proficiency – 3rd Grade

i. Income Status

<table>
<thead>
<tr>
<th>Statewide</th>
<th>Non-Poverty</th>
<th>Poverty</th>
<th>FCPK</th>
<th>No-FCPK</th>
<th>Gap Closure:</th>
<th>Gain:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54.3</td>
<td>43.9</td>
<td>49.7</td>
<td>43.5</td>
<td>FCPK Poverty to Statewide</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>73.5</td>
<td></td>
<td></td>
<td></td>
<td>FCPK Poverty over Poverty</td>
<td>13%</td>
</tr>
</tbody>
</table>

➢ First Class Pre-K closes the gap in math proficiency by 57% for children in poverty compared to observed statewide proficiency levels.
➢ First Class Pre-K for children in poverty provides a 13% gain (increase) in math proficiency over and above proficiency levels observed for children in poverty overall.
ii. Race/Ethnicity and Income Status

**Black and Black Poverty**

<table>
<thead>
<tr>
<th>Statewide</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.3</td>
<td>64.0</td>
<td>39.5</td>
<td>44.6</td>
<td>82.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Black Poverty</th>
<th>Hispanic Poverty</th>
<th>Asian Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.8</td>
<td>36.9</td>
<td>43.6</td>
<td>75.2</td>
</tr>
</tbody>
</table>

**Gap Closure:**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45.8</td>
<td>39.0</td>
<td>43.0</td>
<td>36.3</td>
<td>44%</td>
</tr>
</tbody>
</table>

➢ First Class Pre-K closes the gap in math proficiency by **44%** for Black children compared to observed statewide proficiency levels.
➢ First Class Pre-K closes the gap in math proficiency by **37%** for Black children in poverty compared to observed statewide proficiency levels.
➢ First Class Pre-K for Black children provides a **16% gain** (increase) in math proficiency over and above proficiency levels observed for Black children overall.
➢ First Class Pre-K for Black children in poverty provides a **9% gain** (increase) in math proficiency over and above proficiency levels observed for Black children overall.
➢ First Class Pre-K for Black children in poverty provides a **16% gain** (increase) in math proficiency over and above proficiency levels observed for Black children in poverty overall.
### Hispanic and Hispanic Poverty

<table>
<thead>
<tr>
<th>Statewide</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.3</td>
<td>64.0</td>
<td>39.5</td>
<td>44.6</td>
<td>82.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Black Poverty</th>
<th>Hispanic Poverty</th>
<th>Asian Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.8</td>
<td>36.9</td>
<td>43.6</td>
<td>75.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hispanic</th>
<th>Hispanic Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCPK</td>
<td>No-FCPK</td>
</tr>
<tr>
<td>50.5</td>
<td>44.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap Closure: FCPK Hispanic to Statewide</th>
<th>Gain: FCPK Hispanic Poverty to Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>62%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gain: FCPK Hispanic Poverty over Hispanic</th>
<th>Gain: FCPK Hispanic Poverty over Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>17%</td>
</tr>
</tbody>
</table>

- First Class Pre-K **closes the gap** in math proficiency by **62%** for Hispanic children compared to observed statewide proficiency levels.
- First Class Pre-K **closes the gap** in math proficiency by **71%** for Hispanic children in poverty compared to observed statewide proficiency levels.
- First Class Pre-K for Hispanic children provides a **13% gain** (increase) in math proficiency over and above proficiency levels observed for Hispanic children overall.
- First Class Pre-K for Hispanic children in poverty provides a **15% gain** (increase) in math proficiency over and above proficiency levels observed for Hispanic children overall.
- First Class Pre-K for Hispanic children in poverty provides a **17% gain** (increase) in math proficiency over and above proficiency levels observed for Hispanic children in poverty overall.
**White Poverty**

*Comparisons for White were limited to White Poverty only as White proficiency was above Statewide proficiency at outset.*

<table>
<thead>
<tr>
<th>Statewide</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.3</td>
<td>64.0</td>
<td>39.5</td>
<td>44.6</td>
<td>82.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Black Poverty</th>
<th>Hispanic Poverty</th>
<th>Asian Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.8</td>
<td>36.9</td>
<td>43.6</td>
<td>75.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White Poverty</th>
<th>Gain: FCPK White Poverty over Statewide</th>
<th>Gain: FCPK White Poverty over White Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCPK</td>
<td>56.0</td>
<td>50.5</td>
</tr>
<tr>
<td>No-FCPK</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
</tr>
</tbody>
</table>

- First Class Pre-K for White children in poverty provides a **3% gain** (increase) in math proficiency over and above observed statewide proficiency levels.
- First Class Pre-K for white children in poverty provides a **10% gain** (increase) in math proficiency over and above proficiency levels observed for White children in poverty overall.
IV. Appendix – Sample Demographics

The following table displays the demographics of students included in these analyses.

Full sample = 59,346

<table>
<thead>
<tr>
<th>Overall Demographics</th>
<th>First Class Pre-K Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>Income Status</strong></td>
<td></td>
</tr>
<tr>
<td>Non-Poverty</td>
<td>21,205</td>
</tr>
<tr>
<td>Poverty</td>
<td>38,141</td>
</tr>
<tr>
<td><strong>First Class Pre-K</strong></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>55,803</td>
</tr>
<tr>
<td>Yes</td>
<td>3,543</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>32,288</td>
</tr>
<tr>
<td>Black</td>
<td>19,428</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4,562</td>
</tr>
<tr>
<td>Other/Multi</td>
<td>2,235</td>
</tr>
<tr>
<td>Asian</td>
<td>833</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Poverty and Race</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
<th>Other/Multi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>Non-Poverty</strong></td>
<td>16,723</td>
<td>51.8</td>
<td>2,667</td>
<td>13.7</td>
<td>581</td>
</tr>
<tr>
<td></td>
<td>545</td>
<td>65.4</td>
<td>689</td>
<td>30.8</td>
<td></td>
</tr>
<tr>
<td><strong>Poverty</strong></td>
<td>15,565</td>
<td>48.2</td>
<td>16,761</td>
<td>86.3</td>
<td>3,981</td>
</tr>
<tr>
<td></td>
<td>288</td>
<td>34.6</td>
<td>1,546</td>
<td>69.2</td>
<td></td>
</tr>
</tbody>
</table>