City Study 2019: Buffalo
Acknowledgements

• Student-level data were provided by the New York State Education Department.
• The Cullen Foundation helped produce the list of public schools in Buffalo.
This report on *Buffalo, NY* is one in a series of studies examining school performance across selected U.S. cities.

Performance is defined as how much academic growth students made from one year to the next.

The performance of students in Buffalo is benchmarked to the state average, accounting for student characteristics.

We track the growth of Buffalo overall and by sector using data from 2014-15 to 2017-18.

We also further explore how one-year academic growth for the period ending in Spring 2018 differs by sector, race, poverty status, English language learner (ELL) status, special education status, and gender.
Presentation of Results

- The results display two sets of comparisons
  - The progress of Buffalo students is **benchmarked against the state average learning gains, accounting for student characteristics.**
    - Positive numbers represent better than average performance.
    - Negative numbers represent worse than average performance.
    - Significance in the difference between students in the city and the average state performance is represented by black asterisks.
  - The progress of charter school students within Buffalo is then **compared to the performance of similar TPS students within Buffalo.**
    - Significance in the difference between a student group in charter schools and the same student group in TPS is represented by colored asterisks.
Measurement of Academic Growth

• Results are graphically displayed on two axes:
  • The left axis indicates learning gains of Buffalo students relative to the average learning gains of students with similar characteristics in the state, measured in standard deviation units.
  • The right axis displays the same learning gains measured in days of learning.
    • The baseline of 0.00 represents 180 days of learning.
    • Positive performance translates to greater gains in days of learning.
    • Negative performance translates to fewer gains in days of learning.

• The table below shows a transformation of standard deviation units to days of learning.

<table>
<thead>
<tr>
<th>Standard Deviations</th>
<th>Days of Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>30</td>
</tr>
<tr>
<td>0.10</td>
<td>59</td>
</tr>
<tr>
<td>0.15</td>
<td>89</td>
</tr>
<tr>
<td>0.20</td>
<td>118</td>
</tr>
<tr>
<td>0.25</td>
<td>148</td>
</tr>
<tr>
<td>0.30</td>
<td>177</td>
</tr>
<tr>
<td>0.35</td>
<td>207</td>
</tr>
</tbody>
</table>
Roadmap for Graphs

This menu includes links to specific analyses throughout the report. In the following slides, the same menu is shown on the right-hand side.

All Students

- Overall Buffalo Results

Breakout by

- Sector
  - School-Level

Comparison of Peers

- Race
  - Black Students
  - Hispanic Students

- Subgroup
  - Poverty Status
  - English Language Learner Status
  - Special Education Status

- Gender
  - Female Students
  - Male Students
Buffalo Analysis: All Students

Average One-Year Learning Gains for All Buffalo Students Compared to the State Average Learning Gains, by Year and Subject

- SY 2015-2016
- SY 2016-2017
- SY 2017-2018

* Significant at p < 0.05
** Significant at p < 0.01

The 0.00 line represents the average learning gains of the entire state. These results capture one-year academic growth for the period ending in the Spring of each school year (SY).
Click the buttons below for reading and math growth of Buffalo schools relative to the state average learning gains by year and sector.
Sector Analysis: Reading

Learning Gains in Reading for Students in Buffalo Charter Schools, Buffalo Magnet Schools and Buffalo Non-Magnet TPS Compared to the State Average Learning Gains by Year

The 0.00 line represents the average learning gains of the entire state. These results capture one-year academic growth for the period ending in the Spring of each school year (SY).

Roadmap for Graphs

- Overall Buffalo
- Sector Analysis
- Race Analysis
- Subgroup Analysis
- Gender Analysis

* Significant at p < 0.05
** Significant at p < 0.01

* Growth significantly stronger than that of TPS
* Growth significantly weaker than that of TPS
Learning Gains in Math for Students in Buffalo Charter Schools, Buffalo Magnet Schools and Buffalo Non-Magnet TPS Compared to the State Average Learning Gains by Year

The 0.00 line represents the average learning gains of the entire state. These results capture one-year academic growth for the period ending in the Spring of each school year (SY).
Click the buttons below for reading and math growth of individual Buffalo schools relative to the state average by sector. The upper cluster of dots shows where individual charter schools lie on spectrum of growth, and the lower cluster shows that of individual TPS.
School Growth by Sector - Reading

Distribution of Reading Learning Gains of Individual Buffalo Schools Compared to the State Average Learning Gains

The 0.00 line represents the average learning gains of the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
School Growth by Sector - Math

Distribution of Math Learning Gains of Individual Buffalo Schools Compared to the State Average Learning Gains

The 0.00 line represents the average learning gains of the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Race Analysis

Click the buttons below for graphs showing the performance of Black students in Buffalo or Hispanic students in Buffalo relative to the statewide average learning gains for students of the same race.
Race Analysis: Black Students

Learning Gains for All Buffalo Black Students Compared to the Average Learning Gains of Black Students Statewide, by Subject

- **Reading**
  - -0.10**
- **Math**
  - -0.09**

The 0.00 line represents the average learning gains of Black students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.

* Significant at p < 0.05
** Significant at p < 0.01
Learning Gains for Black Charter School Students and Black TPS Students in Buffalo Compared to the Average Learning Gains of Black Students Statewide, by Subject

The 0.00 line represents the average learning gains of Black students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.

* Significant at p < 0.05
** Significant at p < 0.01
Race Analysis: Hispanic Students

Learning Gains for All Buffalo Hispanic Students Compared to the Average Learning Gains of Hispanic Students Statewide, by Subject

The 0.00 line represents the average learning gains of Hispanic students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Race Analysis: Hispanic Students by Sector

Learning Gains for Hispanic Charter School Students and Hispanic TPS Students in Buffalo Compared to the Average Learning Gains of Hispanic Students Statewide, by Subject

The 0.00 line represents the average learning gains of Hispanic students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.

- Buffalo Charter Hispanic Students
- Buffalo TPS Hispanic Students

- Reading
- Math

* Significant at p < 0.05
** Significant at p < 0.01

Overall Buffalo
Sector Analysis
- School-Level
Race Analysis
- Black Students
- Hispanic Students
Subgroup Analysis
- Poverty Status
- ELL Status
- Special Ed. Status
Gender Analysis
- Female Students
- Male Students
Subgroup Analyses

Click the buttons below for graphs showing the performance of Buffalo students in poverty, Buffalo students with English Language Learner designation, or Buffalo students receiving special education services relative to average learning gains of students of the same subgroup statewide.
Subgroup Analyses: Poverty Status Analysis

Learning Gains for All Buffalo Students in Poverty Compared to the Average Learning Gains of Students in Poverty Statewide, by Subject

The 0.00 line represents the average learning gains of students in poverty in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Subgroup Analyses: Poverty Status by Sector

Learning Gains for Buffalo Charter School Students in Poverty and Buffalo TPS Students in Poverty Compared to the Average Learning Gains of Students in Poverty Statewide, by Subject

* Growth significantly stronger than that of TPS
* Growth significantly weaker than that of TPS

The 0.00 line represents the average learning gains of students in poverty in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Subgroup Analyses: English Language Learner Status Analysis

Learning Gains for All ELL Students in Buffalo Compared to the Average Learning Gains of ELL Students Statewide, by Subject

The 0.00 line represents the average learning gains of ELL students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Subgroup Analyses: English Language Learner Status by Sector

Learning Gains for ELL Students in Buffalo Charter Schools and ELL Students in Buffalo TPS Compared to the Average Learning Gains of ELL Students Statewide, by Subject

The 0.00 line represents the average learning gains of ELL students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.

• Growth significantly stronger than that of TPS
• Growth significantly weaker than that of TPS

* Significant at p < 0.05
** Significant at p < 0.01

* Reading
** Math

-0.20 -0.15 -0.10 -0.05 0.00 0.05 0.10 0.15 Growth (in Standard Deviations)

-118 -89 -59 -30 0 30 59 Growth (in Days of Learning)

Overall Buffalo
Sector Analysis
Race Analysis
Subgroup Analysis
Gender Analysis

Roadmap for Graphs
• School-Level
• Black Students
• Hispanic Students
• Poverty Status
• ELL Status
• Special Ed. Status
• Female Students
• Male Students
Subgroup Analyses: Special Education Status Analysis

Learning Gains for All Buffalo Students in Special Education Compared to the Average Learning Gains of Students in Special Education Statewide, by Subject

-0.06* -0.03 -118 -89 -59 -30 0 30 59
0.00 0.05 0.10
-0.05 -0.10 -0.15 -0.20
Growth (in Standard Deviations)
Growth (in Days of Learning)

• Reading
• Math

* Significant at p < 0.05
** Significant at p < 0.01

The 0.00 line represents the average learning gains of students in Special Ed. in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Learning Gains for Buffalo Charter School Students in Special Ed. and Buffalo TPS Students in Special Ed. Compared to the Average Learning Gains of Students in Special Ed. Statewide, by Subject

The 0.00 line represents the average learning gains of students in Special Ed. in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Click the buttons below for graphs showing the performance of female students in Buffalo or male students in Buffalo relative to statewide average learning gains for the same gender.
Gender Analysis: Female Students

Learning Gains for All Buffalo Female Students Compared to the Average Learning Gains of Female Students Statewide, by Subject

-0.20 -0.15 -0.10 -0.05 0.00 0.05 0.10 0.15 0.20 -0.20 -0.15 -0.10 -0.05 0.00 0.05 0.10 0.15 0.20

Reading Math

* Significant at p < 0.05  ** Significant at p < 0.01

The 0.00 line represents the average learning gains of female students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Gender Analysis: Female Students by Sector

Learning Gains for Female Charter School Students and Female TPS Students in Buffalo Compared to the Average Learning Gains of Female Students Statewide, by Subject

The 0.00 line represents the average learning gains of female students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Gender Analysis: Male Students

Learning Gains for All Buffalo Male Students Compared to the Average Learning Gains of Male Students Statewide, by Subject

The 0.00 line represents the average learning gains of male students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
Gender Analysis:
Male Students by Sector

Learning Gains for Male Charter School Students and Male TPS Students in Buffalo compared to the Average Learning Gains of Male Students Statewide, by Subject

The 0.00 line represents the average learning gains of male students in the entire state. These results capture one-year academic growth for the period ending in Spring 2018.
The summary of the findings from the analysis of Buffalo schools is presented here.