

BIG DATA & K-12 EDUCATION



DC
**PUBLIC
CHARTER**
SCHOOL
BOARD

March 9, 2016

Overview

- Big vs. precision data
- Non-academic data
- Academic data
- Publically available data
- Materials from tonight:
 - <https://github.com/AdamBethke/bigdatak12education>



BIG VS. PRECISION DATA



Big vs. Precision Data

- Hadley Wickham's Big Data Framework
 - Most of the current work in K-12 education fall's into Hadley's first two categories:
 - "Big data problems that are actually small data problems, once you have the right subset/sample/summary."
 - "Big data problems that are actually lots and lots of small data problems."
- Majority of education data problems fit in memory
 - AWS / DIY



Big vs. Precision Data

- Differences between commercial big data and education data and performance monitoring
- Data definitions are important!
 - Charter independence
 - Multiple agencies
 - 100,000+ DC public students



NON-ACADEMIC DATA



Non-Academic Data

- **Inputs:**
 - Attendance
 - Discipline
 - Enrollment
- **Outputs:**
 - [LearnDC Equity Reports](#)
 - Monthly data dives; outlier analysis



Sample Equity Report

BASIS DC PCS

2014-15 Equity Report

What is an Equity Report? Equity in education refers to all students receiving the same caliber of education regardless of their race, ethnicity, economic status, special education status or other factors.

Equity Reports give our schools, families and communities transparent and comparable information related to equity across all DC schools. Equity Reports are available online so that information is easy to access, understand and use.

The Office of the State Superintendent of Education (OSSE), DC Public Schools (DCPS), the DC Public Charter School Board (PCSB) in consultation with charter schools, the Deputy Mayor for Education and Newschools Venture Fund partnered to create these Equity Reports. Equity Reports are a complement to OSSE's LearnDC School Profiles, DCPS School Scorecards and PCSB's Performance Management Framework.

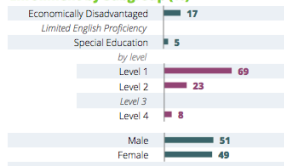
SCHOOL CHARACTERISTICS (SY 2015-16)

Grades 5 - 10
Ward 2
Address 410 8th Street NW
Washington, DC 20004
Contact 202-393-5437
www.basisdc.org
Type Public Charter School

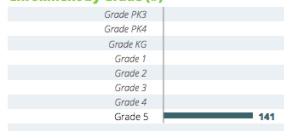
STUDENT CHARACTERISTICS

Total Enrollment (#)
551 Students

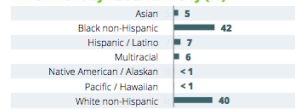
Enrollment by Subgroup (%)



Enrollment by Grade (#)

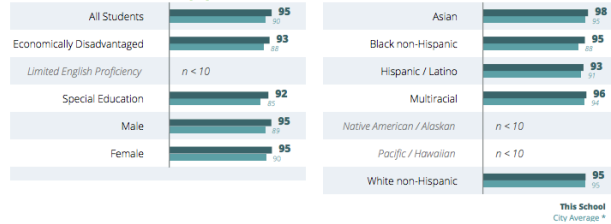


Enrollment by Race/Ethnicity (%)

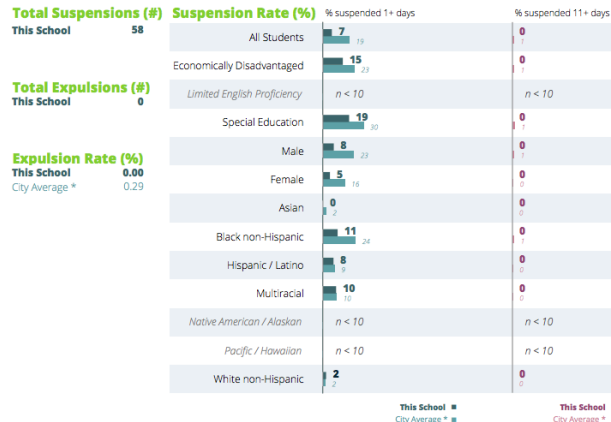


ATTENDANCE

In-Seat Attendance Rate (%)



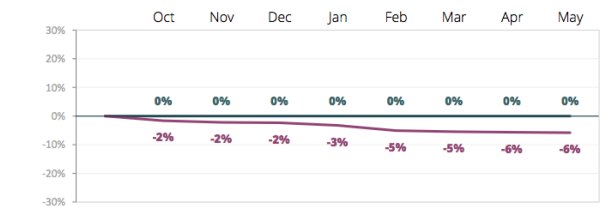
DISCIPLINE



BASIS DC PCS
2014-15 Equity Report

STUDENT MOVEMENT

Mid-Year Entry and Withdrawals (%) This School



Net Cumulative Change (%)

This School -6%
City Average * -1%

Mid-Year Entry and Withdrawals (%) City Average *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Entry	1%	2%	3%	4%	5%	5%	6%	7%
Withdrawal	-1%	-2%	-3%	-4%	-5%	-6%	-7%	-7%



This Equity Report represents the joint effort of OSSE, DCPS, PCSB, and DME to improve equity across all entities. Support provided by Newschools Venture Fund.

ACADEMIC DATA

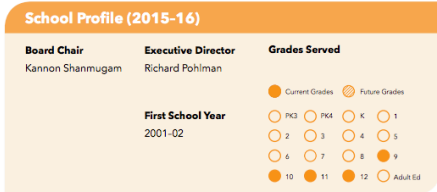


Academic Data

- **Inputs:**
 - State Assessment (PARCC)
 - Early Childhood Assessments
 - High School Outcomes (PSAT, ACT/SAT, College Acceptance)
 - Reenrollment
 - ... mountains of data.
- **Outputs:**
 - [Performance Management Framework \(PMF\)](#)
 - Common framework, schools are tiered each year
 - Reviews and Renewals
 - Subject, Content, and Subgroup Analysis

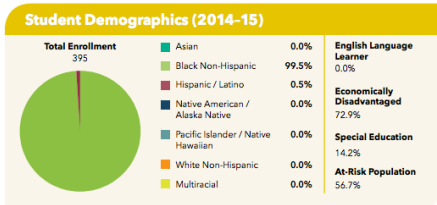


Sample PMF Scorecard



High School Score Explanations

For schools serving 9th through 12th grades, DC PCSB has implemented the High School Performance Management Framework (PMF) to assess academic performance school-wide. The framework includes data for students in all grades at the school for multiple measures.

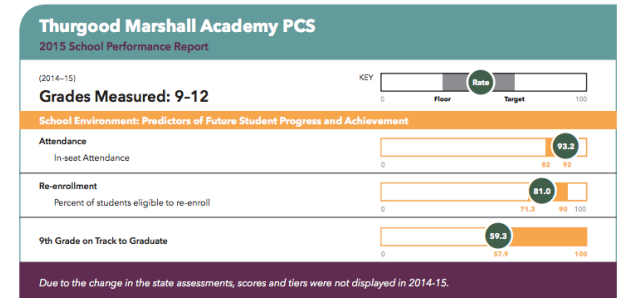
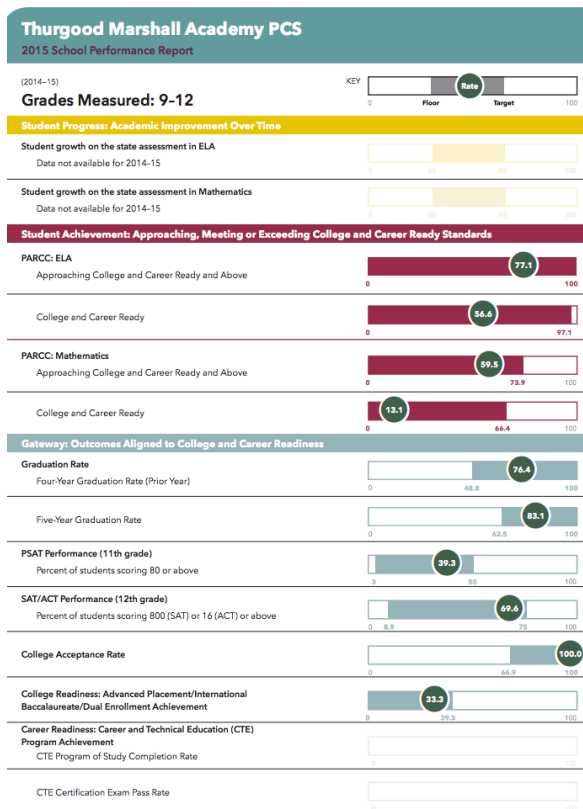


Starting in the spring of 2015, students in high school participated in the Partnership for Assessment of Readiness for College and Careers (PARCC).

* Due to the change in the state assessment, scores and tiers were not displayed in 2014-15.

A Note from the School

The mission of Thurgood Marshall Academy PCS is to prepare students to succeed in college and to actively engage in our democratic society. The school's college prep curriculum provides students with Advanced Placement and dual enrollment/dual credit early college access. In addition to rigorous academics, the school boasts extensive after school opportunities in athletics, arts, and academics to support holistic development of students. Students are supported with wrap around services including homework help, tutoring, and a Summer Prep program. A robust college and alumni program has ensured that since its first graduating class, 100 percent of graduates have been accepted to college. Today, over 90 percent of graduates enroll in college, a testament to the school's mission.



PUBLICALLY AVAILABLE DATA



Publically available data

- [PMF Scorecards](#)
- [Equity Reports](#)
- [Attendance, Discipline and Truancy Reports](#)
- [PARCC Scores](#)
- Shout out to Ben Robinson at the Office of the State Superintendent of Education (OSSE), who maintains the R package [LearnDC](#)



Publically available data definitions

- [Equity Report Technical Guide](#)
- [PMF Policy and Technical Guide](#)



WHAT'S NEXT?



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#DCcharterPROUD