



PORTLAND PUBLIC SCHOOLS

Systems Planning and Performance

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Date: December 3, 2019

To: School Board

From: Russell Brown, Ph.D.

Subject: Representation Adequacy of Student Sample for MAP in Grade 3 and 5 Goals

BACKGROUND

The Northwestern Evaluation Association (NWEA) Measures of Academic Progress (MAP) was introduced as a progress measure for growth and achievement in Portland Public Schools in the 2018-2019 academic year. During the introductory year, the assessment was provided across multiple grade levels in both Reading and Mathematics.

The strong relationship and predictive capacity of MAP scores with respect to the Smarter Balanced Assessment Consortium scores was discussed in a prior memo (September 15, 2019). This became the foundation for building board goals (Grade 3 Reading and Grade 5 Mathematics) based on growth as measured by MAP. In each case, the goal is framed in terms of changing the rate of growth of historically underserved students of color.

Subsequently, a question has arisen as to whether the students who participated in the MAP assessments in 2018-2019 were representative for the purpose of the measurement of the goals.

ANALYSIS OF SITUATION

The following analysis will reiterate the relationship between the assessments and will subsequently address two questions:

1. Were the students who participated in the MAP assessment representative of the student racial groups (historically underserved students of color) used for the board goals?
2. If there is representation, were the SBAC scores comparable for the historically underserved students of color who participated in MAP and those who did not?

These questions will be addressed for each of the goals separately.

Grade 3 Reading.

The goals are linked to the growth observed on the Spring administration of MAP. For third grade reading, the correlation between the MAP scores and SBAC is particularly strong at 0.881.

1. Were the students who participated in the MAP assessment representative of the student racial groups (historically underserved students of color) used for the board goals?

Student Racial Group	MAP Participant			
	No		Yes	
	Count	Column %	Count	Column %
American Indian/Alaskan Native, Not Hispanic	10	<1%	11	<1%
Black/African American, Not Hispanic	132	7.3%	177	9.5%
Hispanic/Latino	240	13.2%	336	18.0%
Multi-Racial, Not Hispanic	198	10.9%	207	11.1%
Native Hawaiian/Pacific Islander, Not Hispanic	10	<1%	18	1.0%
Total*	1818	100.0%	1867	100.0%

*White, Not Hispanic and Asian, Not Hispanic are included in the totals.

As one can see in the above table, each of the student groups representative of our historically underserved students of color had equal or greater representation in the pool of students who participated in the MAP assessment.

The sample, is therefore, representative of the racial groups that the board goal is based upon.

2. If there is representation, were the SBAC scores comparable for the historically underserved students of color who participated in MAP and those who did not?

Student Racial Group	MAP Participant	
	No	Yes
	SBAC Mean	SBAC Mean
American Indian/Alaskan Native, Not Hispanic	2392	2414
Black/African American, Not Hispanic	2358	2350
Hispanic/Latino	2401	2374
Multi-Racial, Not Hispanic	2439	2444
Native Hawaiian/Pacific Islander, Not Hispanic	2379	2382
Total	2404	2388

One might be concerned if there were substantial differences in SBAC performance between those students who participated in MAP and those who had not. It would be highly unusual for no differences to exist in a non-random sampling process. So, it doesn't come as a surprise that some differences exist between those who participated in MAP and those who did not.

The average performance between non-participants and participants differed by 16 points, and the mean scores for each group fell within level two performance on SBAC. Therefore, the differences in the mean performance did not cross the threshold of proficiency. This was also true for each of the racial group disaggregates.

Given the similarity of the score and performance levels, one can conclude that there is not a substantive difference in the scores and that the MAP performance is representative of the underserved students of color for whom the goal was written.

Grade 5 Mathematics.

For fifth grade mathematics, the correlation between the MAP scores and SBAC is particularly strong at 0.913. As a reminder, a perfect positive correlation is 1.

In addition, over 88% of fifth grade students who participated in SBAC also participated in MAP assessments.

1. Were the students who participated in the MAP assessment representative of the student racial groups (historically underserved students of color) used for the board goals?

Student Racial Group	MAP Participant			
	No		Yes	
	Count	Column %	Count	Column %
American Indian/Alaskan Native, Not Hispanic	<10	<1%	14	<1%
Black/African American, Not Hispanic	38	9.1%	291	8.9%
Hispanic/Latino	56	13.5%	539	16.5%
Multi-Racial, Not Hispanic	44	10.6%	368	11.3%
Native Hawaiian/Pacific Islander, Not Hispanic	<10	<1%	24	<1%
Total*	416	100.0%	3269	100.0%

*White, Not Hispanic and Asian, Not Hispanic are included in the totals.

As one can see in the above table, with a much larger participation rate, the historically underserved students of color remain comparably represented in the MAP participation. One would expect that this would remain the same as the participation rate increases.

The sample, is therefore, representative of the racial groups that the board goal is based upon.

2. If there is representation, were the SBAC scores comparable for the historically underserved students of color who participated in MAP and those who did not?

Student Racial Group	MAP Participant	
	No	Yes
	SBAC Mean	SBAC Mean
American Indian/Alaskan Native, Not Hispanic	2165	2430
Black/African American, Not Hispanic	2432	2401
Hispanic/Latino	2474	2447
Multi-Racial, Not Hispanic	2504	2511
Native Hawaiian/Pacific Islander, Not Hispanic	2443	2416
Total	2469	2454

One might be concerned if there were substantial differences in SBAC performance between those students who participated in MAP and those who had not. It would be highly unusual for no differences to exist in a non-random sampling process. So, it doesn't come as a surprise that some differences exist between those who participated in MAP and those who did not.

The average performance between non-participants and participants differed by 15 points, and the mean scores for each group fell within level two performance on SBAC. Therefore, the differences in the mean performance did not cross the threshold of proficiency. This was also true for each of the racial group disaggregates.

Given the similarity of the score and performance levels, one can conclude that there is not a substantive difference in the scores and that the MAP performance is representative of the underserved students of color for whom the goal was written.

STAFF RECOMMENDATION

Based on the 2018-2019 data, there is evidence that the students who participated in MAP testing were representative (both in racial makeup and testing performance) of the historically underserved students of color for whom the 3rd and 5th grade board goals were written.

The board, therefore, should have some comfort in using the MAP assessment results as an adequate representation of the growth performance for both grades 3 and 5.

As we move forward, one would expect participation rates to increase and the question of representation to become moot.

As a member of the PPS Executive Leadership Team, I have reviewed this staff report.

_____ (Initials)