



Date: Aug 21, 2017

From: Adam Larsen, Assistant Superintendent

To: Board of Education

Cc: Thomas Mahoney, Superintendent

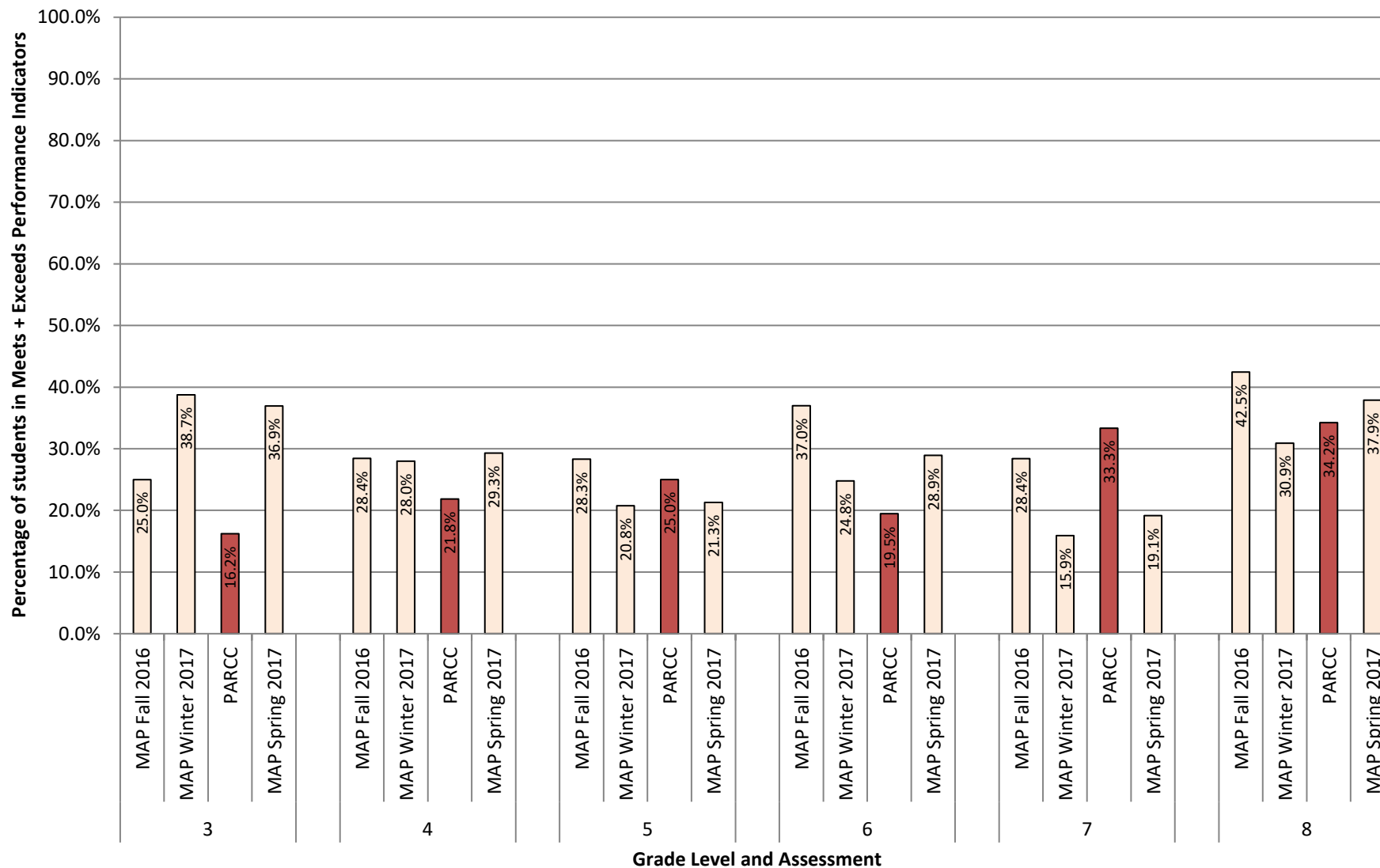
Re: Aug 2017 Board Report

## 2017 PARCC Data

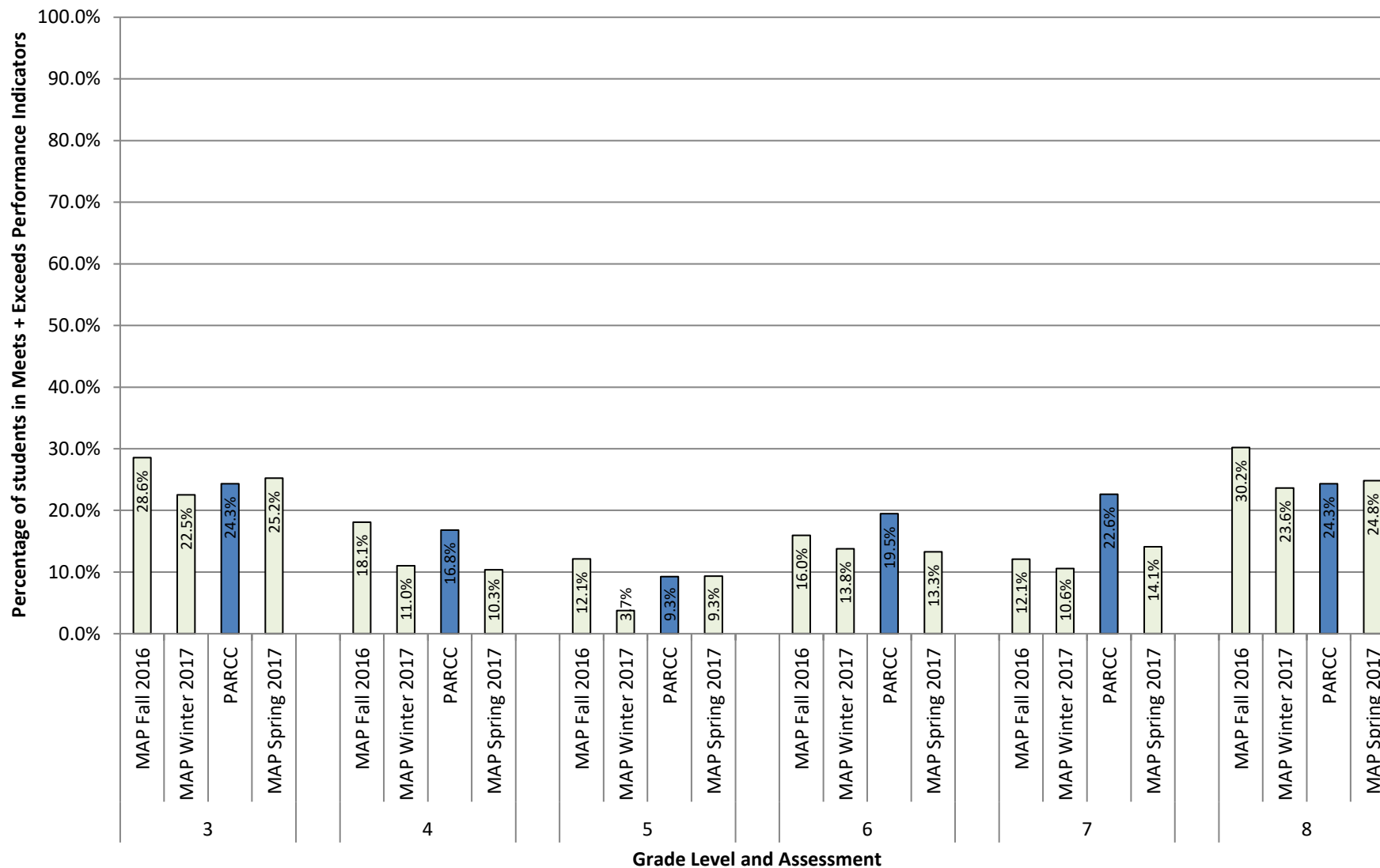
In Spring 2017, students completed the third annual administration of the Partnership for Assessment of Readiness for College and Careers (PARCC) test. Our implementation of the assessment went very smoothly, and we received scores in a timely fashion this summer. While final reports are currently being generated, we have some raw data and can begin to mine the data for trends.

One of the first analyses we usually conduct places NWEA Measures of Academic Progress (MAP) data against PARCC data to see how the percentages compare. We start by looking at the simple percentages by grade level and subject. That graph follows.

## 2017 PARCC Reading with Fall, Winter, and Spring Predictions from MAP



## 2017 PARCC Mathematics with Fall, Winter, and Spring Predictions from MAP





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Because we spend a great deal of time predicting future scores for the purposes of intervention, we always compare accuracy of MAP-PARCC relationship at the individual student level as well. This is useful information in deciding whether to continue use the MAP test in the future.

The present approach involves identifying the types of possible errors and indicating their prevalence in the statistical sample. This analysis supposes that the default condition of a student is to meet expectations on the PARCC. This is referred to as the *null hypothesis*. For each student, the MAP test is used to identify students where the null hypothesis should be *rejected*, which would indicate that he or she will not meet expectations on PARCC. When a student is predicted to meet expectations on the PARCC, it is said that the null hypothesis *fails to be rejected*.

At the time of prediction (Fall MAP), there are two conditions in which a student may fall: predicted to meet expectations or predicted not to meet expectations. At the time of the final assessment (Spring PARCC), there are also two conditions: meeting expectations, and not meeting expectations. For simplicity, these conditions are referred to as *over* and *under* (short for *over the bar* and *under the bar*) going forward. When these two sets of conditions are crossed, a table such as below emerges:



		Actual Performance (Spring 2017 PARCC)	
		Over	Under
Predicted Performance (Fall 2016 MAP)	Over	Correct	Type II Error
	Under	Type I Error	Correct

Predict: Over, Actual: Over – This student was correctly identified as **not** being at risk for falling below expectations on the PARCC. This is commonly referred to as a “correct miss.”

Predict: Under, Actual: Under – This student was correctly identified as being at risk for falling below expectations on the PARCC. This is commonly referred to as a “correct hit.”

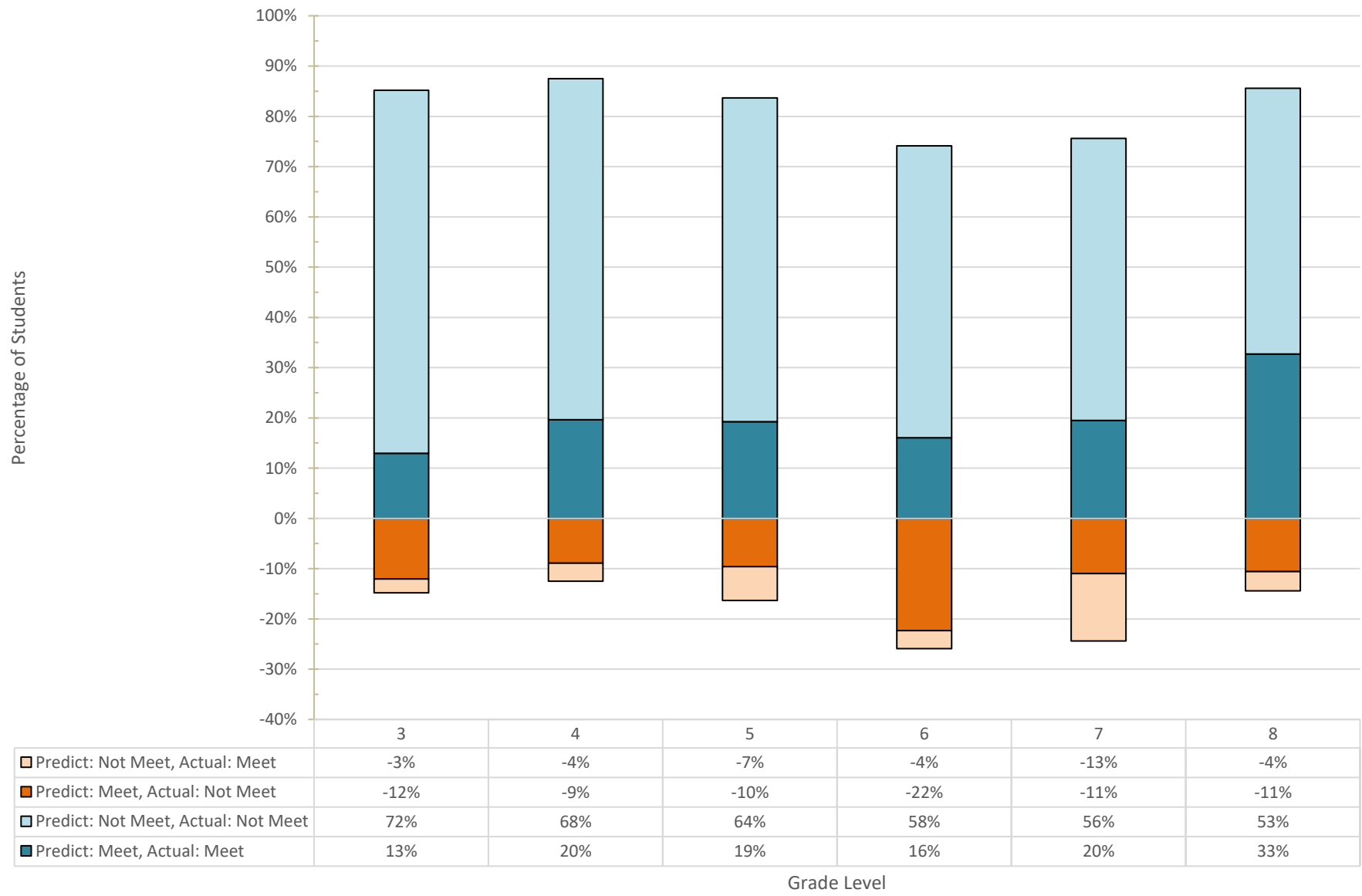
Predict: Over, Actual: Under – This student was predicted to meet expectations on the PARCC, but fell below on the actual test. This type of incorrect prediction is known as a Type II error in research. In practice, this is a student who “fell through the cracks” of the intervention system. Because the student was not expected to score below the state-mandated benchmark, he or she was likely not targeted for additional intervention designed to remediate the skills in which the deficiencies lie. An alternative hypothesis is that the student had a bad test day when he or she took the PARCC. In the school setting, a Type II Error is considered worse than Type I because the student was not identified as needing additional assistance when it probably would have helped.

Predict: Under, Actual: Over – This student was predicted not to meet expectations on the PARCC, but performed successfully on the actual test. This type of incorrect prediction is known as a Type I error in research. In practice, this is a student who was targeted for intervention, and the intervention was successful in bringing that student up to expectations by the time of the PARCC. An alternative hypothesis is that the student had a bad test day when he or she took the MAP. In the school setting, a Type I Error is considered more acceptable than a Type II error, because students on the bubble are being over identified for intervention. These students, while they did meet expectations on the PARCC, may have only done so because of the intervention in place.

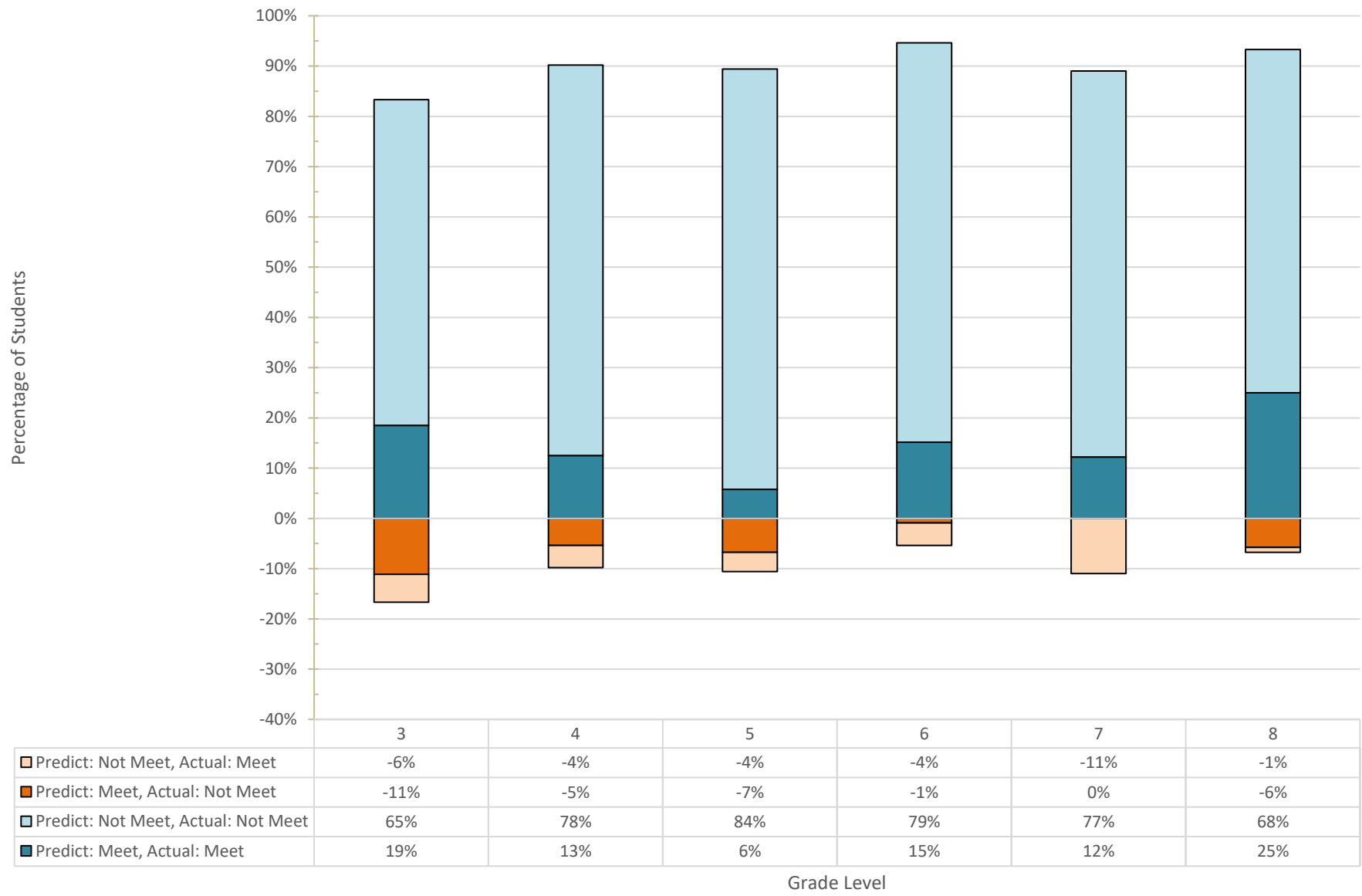
The rates of these two types of errors are related. If high cutpoints are used for identification, then more Type I errors will be committed. Lowering the cutpoints results in a lowered Type I error rate, but a higher Type II error rate. The selected cutpoints strike a balance between these two.

The percentage of students falling into each of these four cells was computed and plotted for visual inspection:

## 2016-2017 MAP-PARCC Prediction Accuracy English/Language Arts



## 2016-2017 MAP-PARCC Prediction Accuracy Mathematics





## Conclusions

MAP continues to be a reliable predictor of future performance on the PARCC. Students projected to meet the state-mandated cutscore on the spring test almost always score at or above this level. When the spring measure was the ISAT, we typically saw more Type I errors than Type II. This was encouraging, as it suggested to us that intervention efforts were effective, and more students rose to the assessment challenge, rather than fell through the cracks as the year progressed.

This is no longer the case with PARCC. We are seeing more students whose fall scores suggest that they will meet or exceed in the spring, but then fail to perform at that level. Further study will be required to determine whether this is a result of actual regression during the school year or whether the MAP cutscores are not rigorous enough to predict PARCC scores with the same accuracy.

## Technology Updates

Teacher and staff devices were all updated to Windows 10 this summer. Windows 7 was nearing its end of life, and it was time to replace that operating system with one that is current. The OHS Library labs were removed and replaced with newer computers that will greatly enhance the online learning environment for students who are taking distance learning courses.

Our wireless network was improved this summer to allow for easier access on personal devices. This applies to students, teachers, staff, and the public. Employees and students will be able to authenticate to the wireless network using their credentials, which will provide tiers of filtering as well as monitored access. For the public, a wireless network will appear after hours for visitors who wish to use wireless at after-school events. Again, this network traffic is monitored. Finally, when vendors, presenters, and other guests visit our campus, office staff will be able to generate invites to the wireless network that provide access that sunsets after a specific time period. This will allow people who visit to conduct product demonstrations or provide service to conduct their business in an efficient manner. All of these improvements will continue to help OCUSD shine in the area of technology.

Students and teachers are piloting more Chromebooks this year. There are pilots occurring in each building, and those administrators and teachers will provide updates through the year as to their impact on the school day. We will also be conducting training for teachers on the use of G Suite (formerly Google Apps), and teachers will be encouraged to contact their students using their provided @students.ocusd.net e-mail addresses.

Respectfully Submitted,

Adam P. Larsen  
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