Dear Families, Students, Staff, and Friends,

In last week’s column, Mr. Straughter explained Mission Hill’s designation as an AYP school based on last spring’s MCAS math testing.

This week, I’ll share a teacher’s perspective on use of MCAS data to study teaching practice.

Evidence of student learning takes many forms: work produced, questions asked, test results, habits acquired, disposition towards learning. While this evidence gives us a picture of kids and their learning, it also sheds light on our teaching goals: are kids learning what we think we’re teaching? Is it this collective body of evidence that we study and analyze, poke and prod, question and ponder. This is what we draw on to improve our teaching practice.

As a mathematician, I enjoy data. I like the way it opens up my mind to consider possible explanations. I have come to appreciate the unanswered questions analysis of data leaves us with. Teaching and learning is not a simple relationship: do a, get b. This complexity is not captured on an MCAS multiple-choice test question. Unlike classroom assessments conducted in real time, we can’t ask a kid what she was thinking when she selected a particular answer.

However, the MCAS results are one type of data we have and I like to mine them for meaning. When I get the MCAS data, I look for problems that a lot of kids missed. Is there a common wrong result, indicating a widespread misconception? Or are the wrong answers spread over the choices, indicating perhaps guessing? Then I study the question. What is being asked? Is the wording of the question confusing? What would a kid need to know to answer the question? Next, I link the mathematical content of the question to my curriculum map. Has the kid had the opportunity to learn what is being asked? Would I expect most kids to be able to answer this question based on the math experiences they have had? If so, then what do I need to change in my teaching to make that possible?

I also look at questions that most kids answered correctly. What kinds of learning activities did the kids participate in? What was the balance between exploration and direct instruction? Is the content a big idea studied over several grade levels?

There are hundreds of items in the Massachusetts math standards for each grade level; there are only forty questions on the test. I don’t teach individual questions from one year’s test to the next class, but I look for trends in the way kids used their mathematical knowledge on the entire test. I want a cohesive curriculum based on a progression of ideas and the development of mathematical thinking and skills over time, not isolated answers.

There are two areas of weakness that I noted and will address with this year’s classes. One concerns communication in mathematics, both reading for meaning and using the language of mathematics (words and symbols) effectively in writing and problem solving. The other concerns evidence I see of weakness in understanding the structure of our base ten number system. Strengthening these areas is worth the efforts of both kids and teachers – there’s a lot of learning mileage involved.

~ Ann Ruggiero

LETTER FROM MISSION HILL

What’s in the data?

It’s cold outside!

The cold weather has finally arrived. We go outside every day, unless it is raining or bitterly cold. Please send your children to school with outdoor clothes that will keep them warm: jackets, hats, boots and mittens. Please check the weather each day and help your child to dress accordingly.

Be there or be square!

We are expecting a large turnout for our Family Fun Fitness night! Come meet Harold, play some games, and cheer others on. There will be something for everyone. And remember, Mr. Straughter is expecting all the dads to come out for this one. Join us at 5:45 for potluck - and bring something delicious and nutritious to help get the blood pumping!

Correction: Last week’s student point of view column was written by a 7th grader, not an 8th grader.