

Ithaca City Schools re-tool math instruction methodology

By Erin Barrett | Posted: Wednesday, October 23, 2013 12:00 am

Ithaca City School District students performed better than peers on the Common Core math testing last year, around 20 points better on average. While there may be many reasons local elementary students fared better on a test that saw dismal results statewide, a conversation with ICSD Master Educator Lily Cavanaugh Talcott revealed a dedicated effort by teachers and administrators to adapt the math curriculum to the needs of the students.

Although ICSD Common Core scores hovered around a 50 percent pass rate, leaving much room for improvement, comparable school districts averaged a 30 percent pass rate. ICSD has, however, adopted an approach to district-wide teacher collaboration and innovation—a priority of Superintendent Dr. Luvelle Brown’s administration—to put themselves on the path to Common Core success.

Talcott recalled the recent history of elementary math at ICSD, starting with the election of Jane Koestler to Elementary Math Curriculum Chair in the 2011-2012 school year. Upon election Koestler restarted the defunct math committee, bringing together teachers and administrators to meet and talk about math. During these meetings it became clear the math program ICSD was using, “Everyday Math,” was not meeting the needs of teachers and students.

“Everyday Math is a program with a spiral or cyclical format,” Talcott explained, “the idea was as kids spiral through the program—learning coins today, for example, and coming back to it in a couple of weeks—they’ll master certain concepts. We found that wasn’t the case.”

The math committee was charged with finding a new math program, given that Common Core testing was on the horizon, they wanted one that would also address Common Core math standards. “We did some research, created a rubric, invited teachers to score six different programs based on the rubric. We went on site visits to check out the top two programs and landed on “Singapore Math,” partly due to its alignment with Common Core math standards,” said Talcott, who was a first grade teacher at the time.

Specifically, they chose the Primary Mathematics program, a version of Singapore Math, which Talcott described as “very well-sequenced; the concepts build on one another. The program is a three-step process focused on taking mathematical concepts from the concrete to the pictorial and then the abstract.”

In the concrete phase students use physical objects, such as blocks or paper clips, in a hands-on learning experience of the concept. After students have mastered the concrete they move on to the pictorial, drawing visual representations of the mathematical concept, such as drawing half of a pizza

to represent the concept of one half. Finally students move on to the abstract, learning to solve mathematical problems utilizing numbers and symbols.

The dominant pedagogy of Singapore Math is the detailed mastering of fewer concepts. This style of math education lines up well with Common Core standards, which similarly entails a deeper understanding of fewer concepts as part of an overall strategy of learning. All states but Texas and Alaska have adopted the Common Core standards in some version or another, though some legislatures are challenging the adoption.

In the same 2011-12 school year, ICSD implemented new local elementary math assessments, as part of the ICSD Common Assessment Program, with a three-fold purpose: “First, that we would be learning what it’s like to assess for the Common Core, to prepare ourselves as teachers and get our kids ready for that,” explained Talcott, “and second, how can we improve those standards and third, to help teachers inform their instruction.”

These local assessments are given at the beginning, middle and end of the school year, and last from 15 minutes for kindergarteners up to 45 minutes for older students. These tests are unique to ICSD, as local teachers have crafted them in a district-wide collaborative effort. According to Talcott, “Many school districts decided to buy tests from vendors, that may not have been ideal, and granted ours aren’t perfect but we’re proud that our teachers went through a rigorous process to create these.”

Following the assessments, some teachers meet with their students individually to go over the assessments, highlighting strengths and outlining future goals. Others choose not to go over the assessments with students, while using the results to craft lesson plans and inform their instruction on an individual basis.

“We’ve gone through a revision process for the past few years throughout the school year and into the summer as we learn more about how to make solid assessments,” said Talcott. “The assessments help inform our instruction and bolster common conversations district-wide. They’re very helpful for exchanging instructional strategies that are working in each other’s classrooms.”

In addition to the ICSD Common Assessments, ICSD has grade-level professional learning communities (GLPLC) days, during which teachers from an entire grade level spend the day in instructional conversation. “This year our focus is looking at student work and designing instruction based on where our kids are in their learning, utilizing, among other tools, these assessments.”

Talcott explained the assessments and the GLPLC days help teachers to know where their students are in order to figure out what to teach next. For this reason, ICSD administrators see the assessments as formative assessments, which become a part of the learning, rather than simply summative assessments that only speak to achievement. “In some ways this could seem arduous,” said Talcott, “but as a teacher it feels so much more respectful and professional to have us be the ones who learn about and craft the assessments.”