

DOINGWHATWORKS



Video

FULL DETAILS AND TRANSCRIPT

Preparing Students for Rigorous Work

University Park Campus School, Massachusetts • March 2010

Topic: Helping Students Navigate the Path to College
Practice: Prepare Students Academically

Highlights

- A math teacher at University Park Campus School describes the strategies that the school uses to prepare students for a rigorous course of study beginning as early seventh grade.
- The school begins by instilling in students feelings of confidence that they can succeed.
- The school offers an August Academy to engage incoming seventh graders prior to the beginning of school and to help them prepare to meet high academic expectations.
- Teachers focus on inquiry, thinking critically, and engaging deeply with content in all courses.

About the Site

University Park Campus School

Worcester, MA

Demographics

40% Hispanic

32% White
21% Asian
7% Black
78% Free or Reduced-Price Lunch
10% English Language Learners
12% Special Education

University Park Campus School prepares all of its students, most of whom will be first-generation college-goers, to succeed in college by doing the following:

- Offering a rigorous, all-honors academic curriculum that starts in grade 7 and focuses on deep thinking and active engagement;
- Collecting and reviewing a range of assessment data to make student- and school-level decisions;
- Implementing a college-going culture and providing supports to help students go to and succeed in college; and
- Providing direct assistance to students and their families in applying, being accepted, and transitioning to college.

Full Transcript

My name is Katie Shepard. I teach here at University Park Campus School, seventh- and eighth-grade math.

Our student population at University Park Campus School is very diverse. About 65% of our students don't speak English at home. Many come in below grade level in both reading and math. Students are thinking, reading, and writing in every class. In my math class, I don't go in there and say, "Today, we are going to discover the Pythagorean theorem, it's $a^2 + b^2 = c^2$, write it down, fill in these numbers, plug it in, and get an answer." Instead, the students are given a problem, they are given manipulatives, they are given visuals. And I ask them, "What do you notice? Is there a relationship between the squares along the sides of the triangle?" And they themselves come up with the formula; they act like little mathematicians. They are acting like scientists in science class, historians in history class, and so on. They are doing the problem solving, they are doing the thinking, and they are writing about it in every class.

Shepard, to class: Today, what we are going to do is each of you is going to get your own little right triangle. I have them in envelopes; I have your names on them. Okay? Everybody gets their own. Don't worry. Nobody is left out. What you're going to end up doing is putting squares—and I have a sheet that explains this step-by-step, so don't worry—but you put squares around the outside of the triangle.

Student A: I get it now.

Shepard, to student: So it's okay if we only know something about the squares because knowing something about the squares will help us find something about the sides.

Student B: So, can we say $a^2 + b^2 = c^2$ divided by c ? Because that will give us the square root, which is also the regular thing.

Shepard: So when I first get seventh graders in my math class, one of the things I need to work on with them is to take the focus off getting the right answer and more on the thinking. I almost have to deprogram them in a way. And with the emphasis put on the thinking, all students can think. All students might not be able to add fractions, but all students can think. And they need to be shown that if they can think, they can do the math.

Shepard, to class: The board says each of you is to read and interpret at least one of the word problems on that sheet. You're not expected to know how to do this. All right? But you are expected to figure out what the problem is asking you to do. Okay? You have two minutes of silent thinking time. Look over your set of problems. See if you can figure out what it's asking, what the problems have in common.

Shepard: I think one of the most important things I do at first is to convince students that they can do math, and I think the teachers of the other subjects do the same thing. A lot of students, when they have come to us, they have encountered so much failure that they have quit; they don't see themselves as learners. So we need to convince them that, yes, you can do this thing called math; yes, you can write; yes, you can read. And then, after that, we can go back and fill in the gaps that they come in with.