



### ABOUT **TUteach**

Temple University's TUteach program is a fundamentally new approach to education that will educate more and better content-prepared science and mathematics teachers to serve diverse learners in high-need schools. In TUteach, science and mathematics majors get early and intensive preservice teaching experience, the latest pedagogical tools, and extensive mentoring and support as they become effective, state-certified teachers whose passion for their subject is passed on to their students. Temple's colleges of Science and Technology and Education are partners with the School District of Philadelphia in helping to address the nation's shortage of science and mathematics teachers through the TUteach program, which is funded in part by the National Math and Science Initiative.

### THE **TUteach** ADVANTAGE

- Science and math majors are content-knowledgeable and passionate
- Freshman-year practice teaching allows students to decide early if they are committed to teaching long-term
- Extensive and experienced support from Master and Mentor teachers

### Student Profile: Julio Viera

TUteach student Julio Viera is a natural. In the classroom, he's knowledgeable, approachable and authoritative. Children mirror his confidence and absorb his enthusiasm. A parent who saw Viera in class would request that he teach his or her children. And he's only taught three lessons so far.



"I think that if I had to teach my own class next semester I would probably be able to handle it," Viera says, though his confidence is recent. "I did not expect to be this ready to teach this quickly. Before Step 1, I had no clue how to manage a class."

"I was nervous for the first lesson; I'm not going to fool you. But it's like training wheels. You get proper training and you observe first. Then they help you set up the first lesson, then help less for the second lesson, and the third lesson we set up all by ourselves. I felt that we were prepared."

Viera and his partner Laine Radell taught their first three lessons in Mentor Teacher Chris Williams' classroom in General George C. Meade Elementary School. Julio appreciated the TUteach support system that helped prepare him for teaching: Williams, Master Teacher Herb Green and Teaching Assistant Lan Wasko. "It's definitely a comfortable atmosphere," Viera says. "They know that you're only a freshman in college with no experience in the classroom. They make sure you're comfortable and that you know you have backup and people to help you."

After Viera and Radell taught their first lesson, the students were given a quiz on what they'd learned. Many did not do well. With Williams' help, the team made adjustments; adding mechanisms to get the attention of the students, explaining processes and outcomes more clearly, and maintaining a pace that allowed them to complete the lesson on time. After the team's final lesson, 17 out of 20 students had perfect quiz scores.

Viera, a biology with teaching major, has always enjoyed science and was in upper-level science classes throughout high school. He remembers one teacher in particular as an inspiration. "My biology teacher, Mr. Ralph Heisler, was amazing," he says. "He made us do a lot of work, but he put a lot of work into it, too."

Though he hadn't planned on becoming a teacher before his TUteach experience, Viera has always liked working with children. Growing up in Garfield, N. J. and Lebanon, Pa., he volunteered at local elementary schools and helped watch the children at his stepfather's church. After graduating from high school, Viera was ready to join the Navy, where his high entrance exam scores had earned him a lucrative signing bonus and an invitation to Officer Candidate School. He changed his mind when he received word of the competitive financial aid package Temple offered him.

"I love it here, I enjoyed my freshman year very much," Viera says. "I'm glad they have TUteach—I know they don't have programs like this in many schools. I wouldn't trade it for anything right now."

## Message from the Co-directors

**Dr. Douglas H. Baird,**  
Assistant Dean for  
Science Education  
and Special Projects,  
College of Science  
and Technology



**Dr. Thomas J. Walker,**  
Director, Center for  
Professional  
Development in  
Career and  
Technical Education  
and Professor,  
College of Education



As TUteach enters its second full year, we are happy to report the program is well on its way to improving math and science education in the Philadelphia region and beyond. Each step in the TUteach program is full of talented, dedicated students who will be the kind of teachers that make a difference.

Pennsylvania's statewide math and science teacher deficits are compounded in large districts like Philadelphia. Only 9 percent of all new Pennsylvania teacher certificates each year are issued in mathematics and science. Sixty-seven percent of Pennsylvania school districts report challenges in hiring science teachers and 62 percent report challenges in mathematics. Last year in Philadelphia, despite the best efforts of the school district, some positions went unfilled for an entire school year due to a lack of qualified candidates, one factor in the district's low achievement scores (see graph).

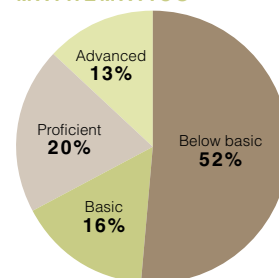
In just three years, TUteach students will be helping to solve the problem of insufficient numbers of certified science and math teachers. The training of TUteach teachers will be completed thanks in part to dozens of talented Philadelphia Mentor Teachers who work with TUteach students in their classrooms. Our hope is that the first class of graduates will provide the region with at least 10 passionate, knowledgeable and experienced teachers who will stay at the schools they join for many years. And every year following, a new crop of great teachers will become available, helping to build a core of exceptional science and math teachers that will positively affect the lives of tens of thousands of Philadelphia students.

We encourage you to partner with us to help solve Philadelphia's mathematics and science teacher challenges. Your support is crucial to the success of the TUteach program.

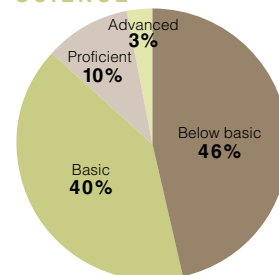
### 2007-2008 PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT (PSSA) RESULTS FOR GRADE 11 IN THE SCHOOL DISTRICT OF PHILADELPHIA

Percentage of students tested who  
scored in each performance level:

#### MATHEMATICS



#### SCIENCE



Percentages may not total 100 due to rounding.



### TUteach RECEIVES NATIONAL SCIENCE FOUNDATION FUNDING

The TUteach program has received a student scholarship grant from the National Science Foundation's Robert Noyce Teacher Scholarship Program, which "seeks to encourage talented science, technology, engineering and mathematics majors and professionals to become K-12 mathematics and science teachers." The grant will provide \$10,000 scholarships to third- and fourth-year TUteach students in exchange for a commitment to teach for two or four years at a high-need school.

### TUteach SPACE COMPLETE

The TUteach office suite and student lounge renovations are complete! The space includes a student lounge, computers for lesson planning and practice-teaching video editing, and Master Teacher Herb Green's office. Stop by Barton Hall A306 to see Dr. Green and the TUteach students at work!

### FIRST "KNOWING AND LEARNING" COURSE BEGINS

Twenty-three TUteach students began Knowing and Learning, the third course in the TUteach curriculum, in Fall 2009. The course explores the ways people learn

and the pedagogical theory behind different ways of teaching. As with all TUteach courses, the emphasis is on melding theory and practice, so students are encouraged to identify the pedagogical theories that resonate with them individually.

### NEW AND RETURNING MENTOR TEACHERS MEET

The Fall 2009 TUteach Orientation for Mentor Teachers was held September 3. Twenty-seven returning and 30 new Mentor Teachers learned about their roles in the TUteach program from Master Teacher Herb Green and TUteach Professor David Kanter.

### TU TEAM ATTENDS ANNUAL UTUteach MEETING

Students Manali Saraiya and Angela Snow, Master Teachers Herb Green and Uma Jayaraman, TUteach Professor David Kanter and program co-director Douglas Baird attended the annual National Math and Science Initiative-UTUteach Institute Conference in Austin, Texas, from May 20 to 22. The TUteach delegation explored issues related to science and math education with other UTUteach replication programs from around the country.

## Mentor Teacher Q&A: Chris Williams

Chris Williams, one of the first TUteach Mentor Teachers and one of 54 Philadelphia School District teachers mentoring TUteach students in Fall 2009, leads a fourth-grade class at General George C. Meade Elementary School. He graduated from Westchester University with a degree in K-6 education.

### How long have you been teaching at Meade?

Three years. And I've had a positive experience. I think Mr. Murphy [Meade's principal] does a nice job. The whole atmosphere of the school is very calm and the staff here is supportive.

### What is your favorite part of teaching?

I like the freshness that kids bring. I like that each day is something different even though you try to make it as normal as possible. I like showing the children something and waiting a day or two for that to take hold and them to say, "Mr. Williams, did you know this?"

### You've hosted TUteach students in your classroom as a Mentor Teacher, including Laura Schmidt and Julio Viera. Why did you decide to become a Mentor Teacher?

I thought it was pretty neat, the idea of people maybe wanting to become teachers and getting to try it to decide if they like it in their freshman year. I like science, too, that's definitely part of why I became a Mentor.

### TUteach places students in real classrooms beginning in their freshman year so that they have an extensive foundation of science and math teacher experience when they graduate. Would you have benefited from teaching in classrooms and working with teachers like you throughout college?

Yes. Theory doesn't make as much sense without the classroom experience because you don't have anything

to compare it to. I do think that being here and seeing some of the theory in a classroom, and seeing different classrooms, is really beneficial. I think exposure in general, whatever they can get, is really good, because your first year with a class is definitely overwhelming. You get a job and they say, "Here are your books. Let's go."

### When you meet with TUteach students immediately after they teach a lesson, what do you talk about?

I usually start off with, "What did you think?" With a lesson, you might run into a couple of things like getting supplies, talking over the kids, or what's the best way to talk about something. So far, they've been quick to pick up on some of the things that they did wrong as well as the things that they did well. I think they're less likely to see some of the finer things, but the students I worked with were pretty reflective and had good suggestions. And



when they came back for the next lesson, they took some of the suggestions I had, they took some of their own suggestions, and they kept what worked.

### TUteach students have a network of Master Teachers, fellow students and Mentor Teachers like you that supports them throughout the program and after they graduate. How much does having people to talk to about teaching help?

It's really helpful. Regardless of how prepared your lesson is, and how good it is, sometimes it just doesn't

work. The first two years I was tearing myself up about it. I called my professor at Westchester and said, "I don't know why I can't get the kids to listen. What do I do?" Having a professional there to coach you along, provide perspective and offer something with regard to education is important. Whatever you're going through, and it took me a while to realize this, some teacher somewhere has been through it before.

**Thanks, Chris!**

## TUteach BY THE NUMBERS

### FALL 2009

Mentor Teachers: **54**

Partner schools: **14**

Master Teachers: **1.5**

Private funds raised to date: **\$100,000**

### COURSE ENROLLMENT\*

Step 1 – **26**

Step 2 – **22**

Knowing & Learning (Course 3) – **23**

### AVERAGE SAT MATH SCORES\*\*

TUteach – **582**

TEMPLE – **539**

NATIONAL AVERAGE – **515**

\* 16 students are currently enrolled in both Step 2 (the second course in the TUteach curriculum) and Knowing and Learning (the third course), for a total of 55 TUteach students.

\*\* Temple scores are from 2006, TUteach and national scores are from 2008.

“I have experienced firsthand, as both a teacher and a parent, the lifelong effect that great teachers can have on students. I support TUTEACH because it is focused on producing content-prepared math and science teachers who change lives with their dedication, knowledge and enthusiasm.”

— Dr. Aileen Rothbard, CST '64, EDU '69, Research Professor, University of Pennsylvania; Member, CST Board of Visitors

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TUTEACH extends its deep appreciation and gratitude to all of the alumni, friends, parents, corporations and foundations, listed below, who made a generous donation in fiscal year 2009, between July 1, 2008, and June 30, 2009.

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**BROOKE WALKER**  
College of Science and Technology  
brooke.walker@temple.edu  
215-204-4776

**VALERIE GAY**  
College of Education  
valerie.gay@temple.edu  
215-204-4649

**TUTEACH** at Temple University

Linda C. Jones  
1301 Cecil B. Moore Ave., Ritter Annex 433  
Philadelphia, PA 19122  
E-mail: lcjones@temple.edu  
Phone: 215-204-9165



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