



## HEATHER HOTCHKISS

A Virginia teacher builds collaborative teams inside and outside of her school and district.

Heather Hotchkiss loves teaching physics because of its applied, problem-solving nature, but also because it forces students to think about thinking.

"For many students, it's the first time they hit a wall and they have to teach themselves to learn," says Hotchkiss, who teaches at Robert E. Lee High School in Fairfax County, Virginia. "That's a really important step."

Hotchkiss is passionate about metacognition—both for her students and for her own practice. The Knowles Science Teaching Foundation's (KSTF) national network of Fellows helped sustain her during her first year of teaching in Texas when, like many first-year teachers, she felt isolated. But when she became the only teacher at Lee to teach International Baccalaureate (IB) physics the following year, KSTF's network helped her address a different sense of isolation by connecting with other IB teachers locally, creating a long-lasting collaboration that has spread to more than a half-dozen schools.

Meeting over lunch during the 2011 summer break, Hotchkiss and three other Washington, D.C.-area Fellows who were all teaching IB physics decided to form a collaborative team. "The glue that kept us together is that I and one other Fellow were teaching IB physics for the first time, and other two had been teaching in isolation for years and were interested in reconsidering everything," Hotchkiss says.

Even though they taught at different schools, the four Fellows agreed to meet regularly to co-plan lessons, follow the same pacing, and develop common assessments. The team "started by hoping to plan a single unit together, and Heather encouraged and pushed the team to accomplish more," says Charley Sabatier, another KSTF Fellow and team participant.

### Heather Hotchkiss

Robert E. Lee High School, Fairfax, Va.

- Member, district curriculum development team for physics; co-wrote and led implementation of reformed remedial physics curriculum for district
- Founding member, cross-school collaborative team of IB physics teachers
- District presenter: technology usage in the classroom
- Science department chair
- Peer Partner, experimental teacher leadership position
- Teach Plus Teaching Policy Fellow
- Team member, Project Achieving STEM Course Effectiveness through Networked Teachers (ASCENT)

# HEATHER HOTCHKISS

## TEACHER PROFILE

"She led us in explicitly thinking about how we create opportunities for students to be inquirers, reflective, and caring individuals while learning physics."

Now in its fourth year, the collaborative IB physics team has grown to seven teachers. In-person meetings have been replaced by regular online collaboration, but the team, Hotchkiss says, has helped her "to actually become the kind of teacher I have always wanted to be."

Hotchkiss is now her school's science department chair. During the 2013–2015 school years, she led a second collaborative team focused on the county's reformed remedial physics curriculum—a course, Sabatier says, "that teachers typically dread teaching."

"Heather has led a team of teachers from 10 different schools in developing a curriculum that engages and challenges students while supporting the varied needs that they bring," adds Sabatier, who is now the district's science instructional coach.

Hotchkiss says that KSTF's emphasis on leadership development has prepared her to take an active role at the school and district level. "A lot of who I am as a teacher has been shaped because of the access to professional development and people offered through KSTF," she says. "Because of that, I feel like I have valuable things to contribute and share no matter who I am talking to, despite having significantly less classroom experience than many of my colleagues."

Hotchkiss, who was named a 2014–2015 Teach Plus Teaching Policy Fellow, also hopes to bring that experience to bear on the state of the teaching profession as it focuses on more 21st century skills. "That's become a buzzword, but it's a meaningful idea; students deserve an education that teaches them to problem solve and think creatively," Hotchkiss says. "Like KSTF, I'm really driven to make the American education system appropriately rigorous and relevant to all students. I believe that when we succeed, teaching is going to look like a different profession."

In addition to her work with Teach Plus, Heather is a participant in Project ASCENT (Achieving STEM Course Effectiveness through Networked Teachers)—KSTF's first major effort to bring teachers' considerable professional knowledge and skills to bear on a problem that has broad and deep consequences for the U.S.: too few students are successfully completing advanced science, technology, engineering and mathematics (STEM) courses at the high school level. Heather, along with three colleagues from her school, were selected as one of five teacher-led teams that will work together as a network to engage in cycles of inquiry to learn about the problem, develop interventions, collect data on the implementation of interventions, analyze collected data and formulate next steps.

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**Knowles Science Teaching Foundation**

1000 North Church Street • Moorestown, NJ 08057

856.608.0001 • [www.kstf.org](http://www.kstf.org) • [info@kstf.org](mailto:info@kstf.org)

