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Sustaining Teacher Change

Getting them to change: That's the question that's still on my mind. I've been vexed for a while now on what it takes to get teachers to sustain change in their teaching practices, and I have a couple of ventures in that area that I'm ready to implement. Crossroads will come at a really good time; I'll value the input that I can gather and how it will help me fine-tune my ventures.

My Vexation

I've been teaching science methods for over 10 years now and I think my course is working well. We've strengthened the program for which my course is the capstone course; so, teachers are coming into the course with the right foundation. When teachers are in the course, they are engaged by the concepts and they see the value of changing their practice. They see the benefits of selecting curriculum by the test of science literacy using a tool like *Atlas of Science Literacy*. They make progress on a deeper understanding of inquiry by working with the five essential features of inquiry. The biggest change for them comes, though, when they examine their teaching practices against the clear research on the pervasiveness and persistence of student misconceptions. They begin to realize the value of non-traditional methods of teaching that fit under the umbrella of conceptual change strategies.

Then, they leave my course and my vexation starts. I run into them a year or two later at a state science teachers' conference, and it sounds by the way they talk as if they've forgotten everything they learned in methods. They've gone back to traditional lecture, and many say that they "don't have time" to do labs or inquiry. I'm vexed because I wonder how what I'm doing in methods has much, if any, value. I'm really vexed because many of these teachers were deeply engaged in the content of my methods course, and I know they're competent professionals who care deeply about their students. They're not bad or uncommitted teachers. Something is happening that causes them to lose their commitment to the practices they encountered in the course. If their experiences in the course don't cause long-term change in their practices, why even teach methods? Or, why not just teach traditional methods rather than research-supported and standards-based practices?

I do recognize that my vexation fits in with the broader and very vexing context of teaching science in American secondary schools. The crushing load of paperwork zaps teachers' energy for being creative with their lessons. High-stakes assessments and increased accountability measures pressure teachers away from teaching for meaning. Veteran teachers coach new teachers against using methods from the ivory tower of the university, telling them instead to focus on tried-and-true traditional methods. All of the pressures wear down the teachers I talk with. I guess at times they just want to take the path of least resistance and use the methods being implemented in the other science classrooms in their school.

My vexation deepens when I think about the children that they teach. I hurt for them, knowing that reformed practices have potential for reaching many more students. I'm thoroughly convinced that traditional practices fail most students; this is why I teach methods as I do. I feel a moral obligation to help teachers understand practices that will support the success of a broad range of students by engaging students in meaningful science learning and helping them reconfigure their thinking to deep, scientific understandings. I'm missing a piece in the puzzle, though. The methods piece is necessary, but not sufficient, to sustain the implementation of reformed practices in my graduates' classrooms.

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My Venture:

I have two ventures in mind for attacking my vexation. One is within my control and is designed to increase the social support for teachers who are trying to change. The other will give them more impetus to change via learning science content in non-traditional ways, but it is much bigger and beyond my immediate control.

For my first venture, I've begun to explore ways to try to pull my graduates together into a network. I think if they stay connected with other teachers who see the same new vision for teaching and learning, then they'll each be better able to sustain change. Networking is especially critical since many of my graduates find themselves to be the only science teacher in a school who is trying to teach differently. I've already tried some efforts at pulling the network together, but it's not working very well. I invited alumni of my methods course back to several sessions in the current course to hear updates on inquiry and offer their perspective on teaching to students in the course. Very few alumni took me up on this offer. I'm working now to host a networking session at our upcoming state science teachers' conference, but I've gotten little response to my preliminary announcements on that effort. My sense is that I should keep on plugging away at building the network, however, that I'm trying to build something novel and that they have to get used to the idea of investing time and energy in the network.

My second venture is beginning an effort with content professors at my university to help them change their teaching practices. This seems to me to be the most promising solution, but it will be a long and slow process. Teachers teach science the way they are taught it, not so much how I tell them to teach it in methods. As they learn biology, chemistry, and physics from content professors who use inquiry and conceptual change methods, they will be more apt to recapitulate those practices when they teach content to secondary students. The climate is right at my university for me to begin work in this area: There's upper-level support for teaching reform, and our new accreditation standards are motivating faculty to look at different teaching approaches. I know, though, that getting faculty to change their teaching will be tough, especially at my research university. Faculty in the sciences know that they are rewarded for their research, not for their teaching.

Both of these ventures stretch me out of the role of just being a methods professor. The networking venture puts me in the role of Convener. I have to constantly think of how to bring teachers together in meaningful ways that will coax them out of their busy routines and into investing a couple of hours with each other. The venture with content professors puts me in the role of Coach, and I don't know how well they will accept me in that role. Do they see an imperative need to change their practices and do they value the directions I would guide them?

I'm excited about the prospect of getting input on my vexation and ventures from the Crossroads community. My motto tends to be "Ready, Fire, Aim"; so, it will be good getting some input in my initial venture attempts. The wisdom of Crossroads attendees will probably save me from wandering down several dead-ends. As you reflect on my vexation, I would specifically appreciate your help with the following two questions:

What strategies can you suggest that will help me convene and sustain a network of teachers committed to reformed teaching practices?

Is my venture with the content professors a realistic goal?