

## Learning to Learn: Co-Teaching Leads to Better Learning – for Students and Instructors

Department of Chemical and Environmental Engineering  
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*This story is part of an occasional series highlighting UA initiatives and efforts aimed at optimizing teaching and learning.*

I am an engineer who applies the engineering mentality to everything I do. I try to optimize every situation, design out anticipate failures where constraints could lead to outcomes that I don't like, and function as efficiently as possible as I iterate through situations.

I approach teaching this same way – trying to improve the classroom environment, the decisions I make on instruction, and the ways to engage students with content that is rigorous and challenging. For the majority of my career, I focused on this improvement alone without realizing this could be a limiting factor in itself.

I encountered chances to co-teach with two separate faculty over a two-semester period and I have to say that co-teaching led to the fastest and most rapid improvement in my teaching, much more than all my self-reflections and all my efforts over the 15 previous years.

As co-instructors, we set the stage so that we were equals in the classroom but had different responsibilities outside the classroom. We agreed on who would be responsible for the classroom elements on different days, with those tasks being: writing quizzes and exams, developing lectures, designing homework, etc.

In my first year of co-teaching, I co-taught with the department chair; in the other, I co-taught with an instructor who had never taught a large multi-unit class before. In both cases, we all benefited.

The benefits were mostly attributable to a daily practice of open communication and peer observation. When I taught, my colleague was actively engaged with my teaching, functioning as a senior preceptor/teaching assistant. On days when my colleague taught, the roles were reversed, and I functioned as a preceptor or teaching assistant. This structure allowed us to provide opportunities to reflect on our teaching for each and every class meeting, and led us to consciously talk about assumptions we had made, challenge each other and, more importantly, to see and steal best practices even as they were emerging. Think about putting teaching creativity on hyperdrive, and then harnessing that, which is what I felt I was doing each time I have co-taught since that first time.

Prior to co-teaching, most of the feedback I received to help improve my teaching would come through teacher-course evaluations, which arrived months after the class had ended. Under the co-teaching model, I was getting real-time information from my colleagues about what worked that day, what students were not understanding, and what needed to be done to address their misconceptions. On the days when the other instructor taught, I was seeing them use technologies that I did not know how to use, and deploy innovative ways of engaging students. I then incorporated all those ideas into my own teaching. Meanwhile, the co-instructor was using my best ideas, but also helping me refine and improve my teaching approaches to help students learn.

My co-teaching colleagues and I met once a week for 30 minutes to reflect on all aspects of the class and improve what the next classes would have as content and how we would engage students with the ideas they needed to master. We would toss out crazy ideas – and then improve them and arrive at compromises that directly led to positive student outcomes. I cannot capture the excitement of what those meetings led to and how we fed on each other to build better classes for greater student successes. Classes that had nationwide failure rates of 50 percent had passage rates of nearly 95 percent when we used the co-teaching approach.

For others considering co-teaching, here are a few recommendations you might want to consider:

- Pick a partner who has skills that complement your own (big picture thinker vs. detail oriented)
- Share your frustrations about teaching with each other to find common ground or ways to balance out time demands and responsibilities
- Be in the classroom during nearly every meeting and think critically about what you see on days when you are not the lead instructor
- Be ready to receive feedback about what your colleague is seeing and realize the feedback is not a criticism of your teaching ability, but observations meant to help you find avenues of improving student learning
- Be ready to grow your abilities and be ready to innovate in ways you cannot predict

*Paul Blowers is a University Distinguished Professor of Chemical and Environmental Engineering. He joined the University of Arizona faculty in 1999. Resources related to optimizing teaching and learning can be found on the **Office of Instruction and Assessment** [1] website.*

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**Links**

[1] <http://oia.arizona.edu/>