

## Scholars for Teaching Excellence Personal Statement

Someone once asked me what the number one role of a teacher is. I thought, how do you choose from a seemingly endless set? Because everyone sees and experiences the word differently, one important role of a teacher is to stimulate students' *personal* knowledge creation through the aid of a carefully crafted curriculum. I also believe wisdom comes through experience, and a teacher is but a guide on a journey of learning. We are facilitating students' advancement in their personal, social, professional, and academic maturity. While contemplating the awesome enormity of our roles, I had something of a personal epiphany. I saw the incredible complexity of education - the vast interconnectedness of an effectively infinite number of confounding variables - as an opportunity to tackle something big, something I feel is ready for a fundamental change. My goal is to be a part of that change and my contribution will be combining innovative hybrid teaching strategies, open resources, and educational data mining to create the next generation of evidence-based instructional practices (EBIP).

I am fortunate to have over ten years of EBIP teaching experience. As an undergraduate, I was a student in a nationally recognized Active Engagement (AE) and Peer Learning (PL) curriculum called the Paradigms in Physics. Later as a graduate teaching assistant, I discovered that I derived great value and personal worth from teaching. I performed a year-long teaching internship with Kenneth Krane, OSU Distinguished Faculty Awardee and American Association of Physics Teacher's Millikan Award winner. Throughout my time in grad school I had the opportunity to teach just about everything, including the Paradigms. In each class, I employed the AE and PL techniques I knew, such as small group whiteboard activities, think-pair-share exercises, and discovery-based learning. At the time I didn't know these were innovative EBIPs because I had always been steeped in modern teaching pedagogy. With small classes at WOU and LBCC, I integrated lecture, lab, and recitation into a studio based model. It was during those years, with small classes, that I was able to hone my skills of, integrating curriculum with a Just-In-Time teaching approach. When I returned to OSU, I was faced with a new challenge: large class sizes. For most instructors lecture is their default mode; my approach was to apply EBIPs to develop student-focused pedagogy. It took me two years to design a system to incorporate a host of EBIPs into a large lecture class, and three years later, I believe it has been a resounding success.

Now that you have an idea of where I've been and what I've learned, let me show you where I want to take us. My research is driven by my vision of the future of education. In my vision of the future, knowledge is created, shared, and studied in an open collaborative environment. To make a course, all a professor would need to do is log onto the free open website we all share. They could select from a database of resources, tools, and pedagogies, creating a *Path to Mastery* through our shared knowledge base. Time-tested algorithms would incorporate not only hard data of what works, but also student and expert survey opinion. These mixed methods algorithms can expose the best, and most frequently traveled, paths. New teachers, unfamiliar with the system, could use the current most robust path that corresponds with their curriculum and general pedagogical constraints. Progress will be made when people create unique paths that are tested and shown to work better. If you find you really want to teach something in a particular way, but there is no resource to do that, you can create it and add it to the body of knowledge.

This resource needs to be all encompassing with regards to management, delivery, and analysis of our courses. The digital revolution has unearthed a trove of new possibilities and that have attracted a wave of profit-driven entrepreneurs. I feel this leaves the current state of education resources fractured and expensive. If we build an open platform for new ideas and technologies now, the future I describe with equal access to all is possible. Creating that vision could constitute a

life's work and I intend to use this Scholars for Teaching Excellence award to create a foundation for this work, focusing on a 3 – 6 year building stage.

In all, I hope to provide a transformative experience, fair and inclusive to all people, that creates engaged critical thinking citizens. I do so by employing a suite of EBIP that deliver a carefully constructed integrated curriculum and pedagogy. My passion for teaching makes me a lifelong learner and scholar. I believe actively pushing the boundaries of educational knowledge ensures you never stagnate. So I suppose my teaching philosophy is that, as a teacher, I am a broker of positive change, someone who not only facilitates change in others but also in themselves.