

Loser-Savkar Fellowship Application

Proposal

Abstract

Summarize in no more than 100 words what you propose to do during your professional development project, and what results you hope to obtain.

For the past four years, I have attended the SENCER (Science Education for New Civic Engagements and Responsibilities) Summer Institute; this is the most inspirational conference I have attended. Indeed, the cross-disciplinary ENV124 course and NOVA's STEAM program grew directly out of this conference. Moreover, my approach to Bio 101 has changed significantly as a direct result of what I have learned at this conference. I believe that attending this conference has made me a more mindful educator who is successfully inculcating civic capacity in my students. I am applying for the Loser-Savkar Fellowship for funds to attend SSI 2017.

Rationale

Tell us in no more than 500 words why this project interests you, why you think it's important, and why you think it can succeed. What current understanding of learning and teaching led you to propose this project? Why do you think this will improve student learning in your classes? What other teaching and learning improvements have you attempted that give you confidence in this project?

Today's issues (e.g. fracking, climate change, and Zika virus) require multiple viewpoints; the complexities that shape these issues require nuanced, creative answers. Since 2013, I have been actively engaged in "Science Education for New Civic Engagements and Responsibilities" (SENCER). The mission of this consortium of undergraduate institutions is to increase the civic capacity of students. The yearly SENCER conference has profoundly affected my teaching. I have created two new courses (ENV124, Honors STEAM 195), and have reinvented how I teach Bio 101.

The first project involved creating ENV 124, "Cross-disciplinary Explorations of Science and Society", a course offered on Loudoun's campus and later approved by the VCCS as a system wide 4-credit lab science course. I recruited guest lecturers from diverse disciplines like English, chemistry, biology, geology, and art and students investigated issues of water from multiple perspectives.

Next, our small learning community created STEAM 195, an Honors Independent study that merged Art and Science by pairing an Honors student with an art and a science mentor. This course was cross-listed in numerous disciplines. Student artwork showed regionally; one student displayed her art at a National Honors Conference.

As a SENCER Leadership Fellow, my project is to collaborate with my colleague Rita Kranidis at Montgomery College to promote "STEAM" and cross-disciplinary conversation at both colleges.

The SENCER conference has inspired me to change the way that I teach Bio101 – around the theme of cancer. Given that cancer will affect 1 in 2 males and 1 in 3 females in this country, our students should understand its causes, treatments, and care options. Many of these topics are natural extensions of our current course content: we study cells, cell division, the molecules that make up cells, genetics, DNA structure and function, and enzymes. Each of these topics is critical to understanding the pathobiology of cancer.

This fall, I created the “Get Civically Engaged!” project. Students research a current issue using library databases, and then express their understanding of the issue through creative writing or art. They discuss how class concepts relate to the chosen issue. This open-ended assignment allows students the choice of how to display their knowledge and encourages them to gain personal perspective.

As a direct result of these numerous efforts, I feel I have become a more empathetic and well-rounded educator. I bring multiple perspectives to my science classes. Lecture content is more relevant, and more fun to teach. Students ask more questions. The semester feels less than a march through the material and more of an unfolding of knowledge. Students “own” the knowledge, and can tuck it away somewhere where they can call upon it when needed. These efforts have given me confidence that this project is worth pursuing.

In conclusion, I am committed to attending the 2017 SENCER conference to improve upon these ideas, gather new ones, and to continue to network and collaborate with like-minded faculty. I sincerely thank you for the opportunity to apply for these professional development funds so that I may attend.

Schedule

Tell us in no more than 150 words when you intend to complete each activity in your proposal. Please note that all activities must be completed within one calendar year of the award.

I intend to attend the SENCER Summer Institute from July 30-August 4, 2017. At the conference, I will share my ideas of how I continue to explore ways to incorporate civic engagement in my Biology classes, and will continue to grow collaborations with similarly minded faculty at undergraduate institutions, adding to those currently established at Montgomery College, University of Wisconsin, the Koshland Science Museum, and KQED (NPR radio station). Currently, my focus is building collegial interdisciplinary practice, to increase incorporation of STEAM at NOVA, particularly in science classes, and to develop curriculum modules that allow beginning Biology101 students to experience civic engagement in the Biology classroom. In Fall 2017, I will implement changes in my Bio101 classes that improve the students’ learning experience. I will report on these changes and their positive impacts on me and my students at the 2018 PuP (Power Up Your Pedagogy) conference.