

2011-2012 Grant Proposals

Eumni Yang

"Incorporating Community Based Learning in STEM Education Course for Preservice Teachers"

Pedagogy Travel Grant

1) Title: Incorporating Community Based Learning (CBL) in STEM education course for preservice teachers

2) Project Description:

I am applying for funds to travel to the Third International Center for Service-Learning in Teacher Education (ICSLTE) Conference hosted at Duke University during June 21-23, 2012. During the conference, I will not only present my research on the CBL course but also participate in on-going discussions of CBL in teacher education with national and international scholars.

The community based learning has been recently introduced to the science education community. While results from various studies have provided its positive impacts on science teacher education, detailed concepts of CBL such as CBL course design, assessment, details in implementation of CBL in teacher education, collecting data, analysis, are still actively being developed in science education. International Center for Service-Learning in Teacher Education (ICSLTE) is committed to sharing experience, practice, and research on Community Based learning in teacher education with colleagues throughout the world. The conference will provide a forum for educators including me who embrace learning through active involvement with schools and the wider community. Participating in the conference will be a great opportunity for me to build sound understandings of CBL, which the science education community is still actively trying to shape. Course revision, research, and its dissemination will follow my participation in the conference.

Timeline:

June 21st -23rd, 2012:

- Participation in the ICSLTE conference

Summer, 2012:

- Revision of the course, EDU320: Teaching math, science, and technology, based on the conversation during the ICSLTE conference

- Analysis of the data collected from the EDU320 in the spring of 2012 and writing draft of manuscript for Journal article

Fall, 2012:

- Teaching the revised EDU320 and collecting data for further improvement of the course

Spring, 2012:

- Submission of the manuscript to journals in science education and community based learning

3) Benefit:

Participating in the ICSLTE conference will strengthen my knowledge in CBL and allow me to conduct in-depth research in CBL in the area of science education. My interests in the CBL science education has been significantly grown since my participation in the 2010 CBL Summer Institute sponsored by the Office of Community Based Learning at Stonehill. Since then, I have designed and taught a CBL course, EDU333 (EDU333, Energy Playground: Teaching Children Math and Science), in partnership with Davis Commons, Low-income housing complex, in Brockton. The students in the course worked with their pupils at the after school program of the Davis Commons.

The pilot study on the impact of the STEM CBL education course in preparing the preservice teachers for diverse classrooms was conducted as a 2011 SURE project. The results showed positive impacts of the course on the preservice teacher preparation. Based on the study a new course, EDU320: Teaching math, science, and technology has been created and is currently being taught as a CBL course working with a community partner,

Cape Verdean Association of Brockton. Data is being collected in the course and analysis will be conducted during the summer of 2012 as a part of the SURE project.

The presentation at the ICSLTE in June will include the results collected from this course. By presenting the study and participating in the on-going conversation at the conference, my knowledge about CBL will be improved and which, in turn, will support me to better design and continuously implement CBL into my teaching and research in science education field. A manuscript will be prepared and submitted on the topic of CBL in STEM education, which will add to my scholarly activities in the science education field, which is required for my tenure promotion process.

My students in the course will be greatly benefited from the high quality content of the CBL courses. Students will improve their efficacy of teaching and learning of math, science, and technology as well as working with students from diverse backgrounds. Student's awareness of their civic responsibility and skills necessary to be involved in society as informed citizens will greatly be improved through the participation in the CBL courses.

4) Community Outreach Plans:

The results of the research on the CBL education course will be shared with the Stonehill community during the SURE poster session in September 2012. The course design and details of implementation will provide professors who want their student to be engaged citizens with specific examples of CBL. The publication resulted in the CBL research will be shared with the science education community through presentations at the annual conference of the National Association for Research in Science Teaching and articles in journals in science education as well as education in general.

Budget:

Registration fee: \$395.00

Airfare: \$250.00

Transportation to and from the airport: \$50.00

Housing 2 nights @ \$150.00: \$300.00

Meals for 3 days @ \$40.00: \$120.00

Total: \$1,115.00