

2017 WCSE - WESTERN CONFERENCE ON SCIENCE EDUCATION

Proposal Title

Enhancing Student-Centered Collaborative Learning in Capstone Courses: A model for using creative themes and media for applied knowledge mobilization and integrated problem solving

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Session Type - Presentation

Keywords – integrated, collaborative learning, creativity, knowledge mobilization

Conference Thread - Thread A - Teaching and Learning Science

PROPOSAL:

With the changing mosaic of educational landscapes, educators endeavour to implement creative strategies to engage students as committed contributors of knowledge. Effective learners embrace change-imposed challenges as valuable learning opportunities that are essential for academic advancement and scholarly progress. To empower students effecting change, this session will describe a capstone undergraduate course that implements a fusion of problem-based learning (PBL) and inquiry frameworks to facilitate students to apply conceptual knowledge to synthesize solutions addressing real and pressing issues in Biology. The model coheres in-lecture and online knowledge mobilization research activities, proposal and final integrated presentations and reports, constructive feedback critiques, “big picture” insight share-a-thons, “experts in the field” networking, face-to-face plan of action sessions, reflection journals, and sparks interdisciplinary mentorship with upper level undergraduate students producing learning tools and media for current and future students. This capstone experience also scaffolds university, community-engaged, and globally linked projects. A unique feature of the course involves students disseminating scientific knowledge using both creative multimedia and distinctive role playing presentation delivery themes, such as reality show global ecology policy makers, superheroes serving eco-wise agencies, and biotourism info-commercials to engage learning amongst their peers. Attendees of this session will get “hands on” access to resources, which reveal the model’s structure, educator/ students’ activities, assessment rubrics, and creative exemplars of course work. It is anticipated that attendees will be inspired to implement creative “wow factors” as active learning components in their undergraduate science courses to engage self-directed and team-based knowledge mobilization and problem solving.

Elements of Engagement – This session will include a facilitated discussion and “hands on” interaction with media exemplars to formulate creative modes to mobilize knowledge, constructively critique, and problem solve.