1-1-2018

Creative Computing Challenge: A Teacher Professional Development to Enhance Non-Computing Career and Technical Education Curriculum with Engaging Computational Practices for All Students (Poster Abstract)

Mihaela C. Sabin
University of New Hampshire, Manchester, mihaela.sabin@unh.edu

Wendy DuBow
National Center for Women and Information Technology

Adrienne Smith
Cynosure Consulting

Rosabel Deloge
University of New Hampshire

Follow this and additional works at: https://scholars.unh.edu/unhmcis_facpub

Comments

Recommended Citation

Sabin, Mihaela, Wendy DuBow, Adrienne Smith, and Rosabel Deloge. 2018. "Creative Computing Challenge: A Teacher Professional Development to Enhance Non-Computing Career and Technical Education Curriculum with Engaging Computational Practices for All Students (Poster Abstract)." In Conference for Research on Equity and Sustained Participation in Engineering, Computing, and Technology. Baltimore, MD: IEEE Xplore.

Creative Computing Challenge: Teacher Professional Learning to Enhance Non-Computing Career and Technical Education Curricula with Engaging Computational Practices for All Students

Mihaela Sabin
Applied Engineering and Sciences Department
University of New Hampshire
Manchester, New Hampshire, USA
mihaela.sabin@unh.edu

Wendy DuBow
National Center for Women and Information Technology
Boulder, Colorado, USA
wendy.dubow@colorado.edu

Adrienne Smith
Cynosure Consulting
Apex. North Carolina, USA
adrienne.ann.smith@gmail.com

Rosabel Deloge
University of New Hampshire
Manchester, New Hampshire, USA
rosabel.deloge@gmail.com

Abstract—The Creative Computing Challenge (CCC) project (2014-2018) is funded by the National Science Foundation and is designed to broaden participation in computing by providing professional development (PD) for high school teachers at Career & Technical Education (CTE) programs throughout the state of New Hampshire. Teachers receive a stipend and tablets for their classrooms; they attend several in-person PD sessions through the year, where master teachers and PD facilitators introduce modeling of inquiry and equity-based practices, as well as teach the App Inventor tool and how to inculcate computational thinking in students. Project evaluation has included teacher interviews, classroom and PD observations, as well as student and teacher surveys. External evaluation of this project has been an integral part of the project from the beginning and, along with the project team's observations and input, has significantly reshaped the project activities. It became clear after the first year that a central challenge of this project would be working with a mix of teachers across multiple domains -- from teachers who had little experience even using computers to teachers who had computer science degrees; from teachers who came to teaching from professional backgrounds to those who had education degrees; and from beginning teachers to those who had been teaching the same courses for twenty years. Through evaluation data and really listening to teacher feedback, we not only tailored the PD content and structure, but also refined the data collection instruments and evaluation design to bridge the gap between different teacher experiences and levels of preparation. As a result, we have been able to bring computing into non-technical content areas such as Hospitality and non-programming classes such as Photography, as well as support computing educations in New Hampshire CTE programs. In Year 4, we now better understand the range of benefits and challenges involved in working with CTE programs and inserting CCC-inspired curricular modules in non-computing courses.

Keywords—teacher professional learning; career and technocal edcuation; inquiry and equity-based teaching professional development evaluation