

# Improving pre-service teachers' work readiness by challenging their developing professional identities

## **Susan Blackley**

Curtin University, Perth, Australia  
susan.blackley@curtin.edu.au

## **Rachel Sheffield**

Curtin University, Perth, Australia  
rachel.sheffield@curtin.edu.au

## **Dawn Bennett**

Curtin University, Perth, Australia  
Dawn.Bennett@curtin.edu.au

This presentation reports on a project that sought to enhance pre-service teachers' experiences in collaborative Science, Technology, Engineering and Mathematics (STEM) education, assisting their preparation for a successful transition to the profession, and positioning themselves as novice researchers. The methodology for this project was interpretivist qualitative research, based on an exploratory case study. The project was situated in the context of *Makerspaces*; spaces that have been designed or set aside to support the makers in the creation, design and building of new projects and technologies. They revolve around people coming together to work collaboratively on a project.

In the first phase of the project, six pairs of female pre-service teachers workshopped for two hours with female engineering students to trial a Makerspace project (an origami flower with a light circuit), gain a clear insight into the STEM knowledge being accessed, and ways in which the project could be extended. Data were collected during the workshop, and after the experience. The purpose of these data was to determine the nature and extent of learning the workshop had on both cohorts of students.

The second phase of the project took place one week after the initial workshop, and saw the pre-service teachers working with groups of Year 5 and 6 primary school girls mentoring small groups to make the base project, and collecting observations of how the school girls engaged with the activity. The second phase data comprised pre-service teacher observation notes, recordings of the children's final product and a survey about the process, and a focus group interview at the completion of the session with the pre-service teachers. Of particular interest were the ways in which the pre-service teachers interacted with the children, how the pre-service teachers perceived they interacted with the children, and the extent to which, upon reflection, the pre-service teachers believed that such "extra-curricular" activities would or could value-add their university course in regards to better prepare them for their professional identities as teachers.