A NEW TYPE OF WIL: SCIENCE STUDENTS DRAW ON THEIR EXTANT WORK FOR LEARNING AND COURSE CREDIT

Susan Rowland^{a,b}, Deanne Gannaway^b, Christine Slade^b, Robyn Evans^c, Peter Adams^{c,d}

Presenting Author: Susan Rowland (<u>s.rowland1@uq.edu.au</u>)

^aInstitute for Teaching and Learning Innovation (ITaLI), The University of Queensland

^bThe School of Chemistry and Molecular Biosciences (SCMB), The University of Queensland

°The Faculty of Science, The University of Queensland

^dThe School of Maths and Physics, The University of Queensland

KEYWORDS: Work-integrated Learning (WIL), Science, Curriculum

Problem

Australian STEM graduates emerge from their degrees with deep specialty-area knowledge but the *majority* of science graduates are employed in non-science areas (1,2). These graduates need the career management skills defined by Bridgstock (2009) (3).

Tertiary science curricula do not generally help students develop life or career planning perspectives, and Australian employers have difficulty finding STEM graduates with well-developed interpersonal skills, understanding of business, and significant workplace experience (4). Compounding these issues is the problem of limited industry access for science students who want to complete workintegrated learning (WIL). In response, we have developed SCIWILWORK, a new program at UQ that aims to help science students draw on their current paid work to develop better understandings about employability.

Plan

SCIWILWORK is an innovative, previously untried WIL model in which students use their current paid work as a vehicle for employment-related and work-relevant learning. SCIWILWORK has the potential to dramatically increase WIL opportunities for science undergraduates, transform students' learning from their current paid work and their science degrees (5,6,7), and deliver more prepared and immediately employable graduates to industry.

We are evaluating the capacity of SCIWILWORK to provide students with deeper understanding of their place in the world of work and of the skills and attributes they need to prosper and contribute as employable STEM graduates.

Action

This mixed-method research evaluates the ability of SCIWILWORK to develop students' career management skills. It draws on the Bridgstock (2009) framework to define these skills, which include 'Appraisal and knowledge of self' and 'Skills necessary to navigate and advance in the world of work'.

We are currently delivering a pilot version of SCIWILWORK in Semester 2, 2016 with the goal of developing and delivering a full-scale offering in 2017. We collect data through multiple modes including: photovoice, surveys, reflective writing, peer evaluation by program mentors, and student focus groups.

Reflection

We are in the final preparation stage for the imminent pilot rollout and will have reflections to share by the time of the conference. These reflections will address the process of SCIWILWORK curriculum design, the tension between stakeholder perceptions of employability studies and science-focused WIL, and the students' perceptions of work, WIL, and the value of non-science WIL to science undergraduates.

References

- Harris, K-L (2012) A Background in Science: what Science means for Australian Society. Melbourne: University of Melbourne.
- McInnis, C, Hartley, R, Anderson, M (2000). What did you do with your science degree? Melbourne: University of Melbourne.
- 3. Bridgstock, R (2009) The graduate attributes we've overlooked: enhancing graduate employability through career management skills. *Higher Education Research & Development*, 28(1): 31-44.
- 4. Deloitte Access Economics. (2014). STEM Employer Survey. Canberra: Office of the Chief Scientist.
- 5. Fenwick, T (2006). Toward enriched conceptions of work learning: Participation, expansion, and translation among individuals with/in activity. *Human Resource Development Review*, *5*(3), 285-302.
- Jones, A (2009). Redisciplining generic attributes: The disciplinary context in focus. Studies in Higher Education, 34(1), 85-100
- 7. Science Council (2016) 10 types of scientist. Online at http://sciencecouncil.org/about-us/10-types-of-scientist/

Proceedings of the Australian Conference on Science and Mathematics Education, The University of Queensland, Sept 28th to 30th, 2016, page 119-120, ISBN Number 978-0-9871834-5-3.