THE STUMBLING BLOCKS OF INTEGRATING QUANTITATIVE SKILLS IN SCIENCE

Carmel Coady^a, Kelly E. Matthews^b, Peter Adams^c, Shaun Belward^d, Leanne Rylands^e, Vilma Simbag^f

Presenting Author: Carmel Coady (c.coady@uws.edu.au)

^aSchool of Computing, Engineering and Mathematics, University of Western Sydney, Penrith NSW 2751, Australia

- ^d School of Engineering and Physical Sciences, James Cook University, Townsville QLD 4811, Australia
- ^eSchool of Computing, Engineering and Mathematics, University of Western Sydney, Penrith NSW 2751, Australia
- ^f Teaching and Educational Development Institute, University of Queensland, St Lucia QLD 4072, Australia

KEYWORDS: quantitative skills, science curricula, integration

ABSTRACT

The Science Higher Education community has acknowledged the essential role of quantitative skills (QS) as a graduate learning outcome. However, efforts to build QS across science degree programs have been meet with a range of obstacles that are inhibiting the development of QS to an appropriate standard. This presentation, drawing on interview data from the ALTC funded QS in Science project which used a case study approach, details the challenges institutions have found in trying to ensure that QS are developed and embraced in science curricula. Interview data (n = 48) from academic staff involved in the case studies revealed several broad categories that significantly impacted on embedding QS effectively in the science curriculum: 1) the attitude and background of students undertaking science courses, 2) the constraints of the various science degree program structures.

Proceedings of the Australian Conference on Science and Mathematics Education, University of Sydney, Sept 26th to Sept 28th, 2012, page 41, ISBN Number 978-0-9871834-1-5.

^b Teaching and Educational Development Institute, University of Queensland, St Lucia QLD 4072, Australia

[°] Faculty of Science, University of Queensland, St Lucia QLD 4072, Australia