

# MATHEMATICAL PATHWAYS FOR STUDENTS ARTICULATING TO BUSINESS DEGREES

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## ABSTRACT

Australia needs more qualified professionals in the Science Technology Engineering and Mathematics [STEM] areas. The national focus on widening participation in higher education (HE) includes strengthening pathways from vocational education and training (VET). VET students often lack the mathematics skills necessary to articulate successfully to higher degrees that require these skills. Anxiety about mathematics has been identified as a barrier to success in Business degrees in particular (Joyce, Hassal, Jose, Donoso & Jose, 2006), highlighting the need for mathematics knowledge and support for students transitioning to these degrees. Of particular concern are those students who might be potentially less prepared for the transition, such as VET students. This project is part of a larger Office for Learning and Teaching grant focusing on developing contextualised pathways for four different disciplines (education, engineering, business and health science). The business pathway mapped mathematics topics covered in VET units associated with business qualifications at Certificate 3, and 4 and Diploma level foundation level units, to the base level mathematics knowledge required at the University of Tasmania and the University of Notre Dame Australia for completion of first year quantitative methods units of study.

Based on this mapping, a set of online modules were developed to support students during their VET studies [qualifications] with foundation level skills, and to address the mathematics gap between VET and HE. These modules were also designed to provide support to first year business students, and assist them in completion of the quantitative methods units required in first year Bachelor of Business Degrees.

The pathway developed comprises seven modules; two foundation level modules, three transition level modules and two modules providing resources for support through HE quantitative methods. For the first five modules, a pre-test determined whether a student needed to complete the modules and a post-test (self-assessed) was developed to test the students' knowledge upon completion of the module lessons, practice tasks and exercises. The project was recently concluded, and the pathway to business has now been active for 4 months during which it has been offered to first year business students at the University of Tasmania. Successful completion of the module post-tests has been endorsed by the University of Notre Dame Australia's School of Business for entry into the program for students with tertiary mathematics.

This presentation describes the process of the business pathway development and the opportunities for cross sectoral course support and delivery.

## REFERENCES

Joyce, J., Hassall, T., Arquero M., José L., Donoso A., & José A. (2006). Communication apprehension and maths anxiety as barriers to communication and numeracy skills development in accounting and business education, *Education & Training* 48(6): 454-464.

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