

STEPS TOWARD MASTERY LEARNING IN A FIRST YEAR MATHEMATICS SERVICE SUBJECT

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ABSTRACT

Student retention and progression have been identified as two of the most pressing concerns for higher education (Krause, Hartley, James and McInnis, 2005), and for students of Science, Technology, Engineering and Mathematics (STEM) in particular (Universities Australia, 2012; Office of the Chief Scientist, 2012). These concerns are unlikely to lessen as “The emphasis of the higher education sector on the first year must intensify as the student population grows and diversifies” in response to government policy (James, Krause and Jennings, 2010, p72). Coincidentally, the research literature points to the fact that for a significant proportion of first-year students’ experiences are neither personally satisfying nor academically successful (McInnis, 2001; Tinto, 1993), and that “missing from the literature are clear mechanisms for assisting or enabling the [first-year] transition” (Bowles et al, 2011, p64). It is proposed that the introduction of elements of mastery learning (if not mastery learning itself) into first-year mathematics subjects will go a long way to address these concerns. This paper describes and analyses the implementation of elements of mastery learning in a first year Mathematics service subject.

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