

DESIGNING A CONCEPT INVENTORY TEST FOR STUDENTS IN FIRST YEAR GENETICS

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KEYWORDS: concept inventory, conceptual understandings, testing

ABSTRACT

The 1st year genetics subject at La Trobe University has a large cohort (~ 700 students), who come to us with a wide range of backgrounds in knowledge of genetics. The academics teaching into the subject have some expectations of a basic knowledge of biology and the use of a pre-knowledge test or concept inventory would be helpful in determining the range of abilities within the cohort.

Concept inventories have been in use in many disciplines, in particular physics has been using a force concept inventory since the early 1990's (Hestenes, Wells, & Swackhamer, 1992). The design of our test will utilise studies already in progress around the world, for example the Genetics Concept Assessment Test at the University of Colorado (Smith, Wood, & Knight, 2008) and the Genetics Literacy Assessment Instrument (GLAI) at the University of Cincinnati (Bowling, Acra, Wang, Myers, Dean, Markle, Moskalik, & Huether, 2008).

The opportunities to use this test as both a pre- and post-test will also allow us to measure not only the intended learning outcomes for the subject but also the students conceptual understanding of the subject matter (Bowling et al., 2008).

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Proceedings of the Australian Conference on Science and Mathematics Education, University of Sydney, Sept 26th to Sept 28th, 2012, page 68, ISBN Number 978-0-9871834-1-5.