CRITERION-BASED ASSESSMENT OF STATISTICAL REASONING, THINKING AND LITERACY – EARLY STAGES

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ABSTRACT

Statistical reasoning, thinking and literacy (SRTL) is a popular framework for considering learning outcomes in statistics education. In this ideas exchange workshop participants will discuss the role of SRTL in undergraduate science education in Australia. We will take steps towards a shared understanding of statistical thinking, reasoning and literacy amongst academics. We will gauge interest for a potential extension to the *mathsassess* OLT project (www.mathsassess.org) to develop supporting resources for assessment of SRTL in undergraduate statistics and other disciplines where statistics is an integral part of the curriculum. The session is intended to help refine the scope and aims of the proposed extension| project and will lay the ground for future workshops in this area.

THE ISSUE

This ideas exchange is intended to be the first step in a larger project to help *transform practice* in the assessment of statistics. The workshop will take first steps towards developing a shared understanding of the meaning and role of statistical thinking (typically higher levels of the Biggs and Collis' SOLO taxonomy), statistical reasoning (typically mid-levels of SOLO), and statistical literacy (typically lower levels of SOLO). The workshop will be the first stage in a larger project to *support educators* to assess all levels of the SRTL hierarchy. By prompting discussion of the role of SRTL and other frameworks in statistics, the session will encourage participants to become more *reflective* in their teaching practice.

THE APPROACH

Many introductory statistics courses in Australia have similar learning outcomes and assessment tasks, many of which align well (either explicitly or implicitly) with the framework of statistical reasoning, thinking and literacy (SRTL). Given the common aims of many introductory statistics courses, it would be helpful to have a shared pool of resources for academics to draw on for their statistics assessment, explicitly linked to the SRTL framework. A similar pool of resources, including a set of criteria, descriptors for levels of achievement, and exemplar assessment tasks, was developed for mathematics by the *mathsassess* OLT project. The *mathsassess* material has some relevance to statistics, however SRTL was not explicitly addressed by the *mathsassess* project and is not well captured by the existing resources. We are planning a project to develop a set of shared resources to support assessment in statistics courses. However, we first need to seek a common understanding of the meaning and role of statistical reasoning, thinking and literacy, and its relation to other frameworks such as the statistical data investigation process. At this preliminary workshop, we hope to take first steps towards a shared understanding of SRTL amongst the Australia academic community, and help shape the path for the future project.