

# STATISTICAL LITERACY FOR ALL: TEACHING *CRITICAL THINKING WITH DATA*

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## ABSTRACT

*Critical thinking with data* is a breadth subject available to any first-year undergraduate student at the University of Melbourne under *The Melbourne Model*. We first aim to convince students of the relevance of statistical literacy to their academic pursuits and everyday lives. Students can develop the disposition of an enquiring statistical consultant by learning how to review and evaluate critically statistical information and arguments. We engage our diverse group of students in the challenging content of the course in a variety of ways. The statistical material is embedded in a rich context of case studies and real world examples that are varied, relevant, accessible, rich, and interesting. The presentation of lectures is media rich; many examples are taken from the news of the day. Important ideas, concepts and principles are presented in many different ways that do not rely on mathematics. Our approach to assessment is quite different from mainstream statistical subjects; students are asked to make astute judgments of material with quantitative information rather than produce analyses. We use on-line assessment tools, short written assignments, and a larger project to assess students' statistical reasoning and generic skills such as working in groups, giving oral presentations and writing incisive critiques.

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