



The relationship between learning approaches and students' achievements in a first year statistics unit in Australia

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Statistical literacy and skills are becoming more and more important with technological developments in computer science due to ease of data collection, cheaper data storage and speed of analysis. Also the rise of public demand on evidence based decision making created a need for equipping more students with statistical knowledge so that they can assist evidence based decision making. Although many degree programs include a first year statistics into their curriculum to address this issue, it is debatable whether this is beneficial at all. Many students do not retain their knowledge beyond their final exam for the statistics unit that they had to study as part of their degree program. Perhaps as (statistical) educators we fail to enthuse and show relevance of statistics to whatever the students are studying since some students decide to use a surface approach to their learning in statistics. One such recent student in our first year statistics unit wrote that “*I have other units I need to complete and in order to achieve a pass in a unit which not related to my degree and working part-time while studying full-time, I do not have time to use the Deep Approach which ideally would be the approach I would want to use*”. This student’s reflection on his/her learning in the first year statistics unit is not a rare comment and we all know anecdotally that students find statistics *boring, not relevant* to their degree and they easily give up on statistics. In this presentation, I will explore the relationship between learning approaches and students' achievements in a first year statistics unit in Australia where students mainly studying towards a degree other than Statistics. Less than 1% of our first year students decide to major in statistics. This research is part of a larger multinational study on learning approaches in statistics which includes students from Italy, Argentina, Finland, Turkey and Vietnam.

Keywords: learning approaches in statistics, relevance of statistics; multinational study.