Statistical modelling to evaluate UniPASS: Sustaining learning innovation by establishing efficacy

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Abstract:

UniPASS is an innovative peer learning program with a strong record of enabling student academic success in difficult units; however, the innovative pedagogy and transformational effect on learning needs to be evidenced to be sustainable. Much existing research, while evidencing the positive impact of peer learning, suffers from methodological limitations, including insufficient controls for self-selection biases, and a failure to account for clustering effects resulting from nested data structures.

This presentation offers our current research which overcomes several of these limitations with the use of linear and generalised linear mixed modelling based on 5,700 observations. Specifically, we modelled students' grades, odds of passing and year-on-year retention with UniPASS attendance, after controlling for proxies of prior achievement (e.g., previous semester weighted averages), ability (e.g., ATAR) and motivation (e.g., the extent of prior engagement the program), as well as multiple demographic variables.

Preliminary results indicate a clear and significant association between increasing attendance and improved student grades, with predicted gains in excess of 10 marks associated with a full semester's attendance. The proportion of students re-enrolling in units the following semester also increased significantly with attendance (up to 0.9). Each of these effects was calculated after controlling for proxies of prior achievement, ability and motivation.