SUPPORTING ENGAGEMENT OR ENGAGING SUPPORT?

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BACKGROUND

With more students not studying mathematics in their final year of secondary school in Australia, and a greater proportion of those who do take mathematics choosing a low level of mathematics, more first-year university students are at risk of failing first-year university mathematics. This greater student diversity increases the need for learning support in first-year university mathematics subjects.

AIMS

The main aim was to study the effects of two modes of learning support in a first-year mathematics subject with a high failure rate for which there is no assumed mathematics knowledge and in which many students have a poor mathematics background, noticeably worse than five years previously. A secondary aim was to study how the use of learning support interacted with two measures of engagement: tutorial attendance and use of the learning management system.

DESIGN AND METHODS

Students enrolled in an introductory level first-year first semester mathematics subject were offered both online support and face-to-face workshops. Student use of support was tracked for a semester, along with two measures of engagement: tutorial attendance and use of the learning management system. Students' performance in three tests run during semester and their final grades were also recorded so that performance could be considered in the light of the use of support and engagement.

RESULTS

Engagement with both online support and face-to-face support was generally very poor, however the groups that utilised each mode were largely distinct. This indicates that a variety of support mechanisms, both face-to-face and online, are necessary to maximise the engagement with support. The interplay between learning support and engagement was found to be significant and the use of support can be used as a measure of engagement. The success of support is intertwined with the success of engagement, making it difficult to measure the success of learning support. However, student outcomes appear to be substantially improved through engagement with any learning activities.

CONCLUSIONS

To measure the success of learning support we somehow have to disentangle the effect of learning support from that of student engagement with the subject. The poor engagement with learning support presents us with a huge challenge for the future: getting more students engaged in learning support. Though support is generally seen to be successful, few students engage with the support available and so many students are performing far worse than they could be. This has a serious effect on pass rates and can be detrimental to mathematics departments as mathematics academics could be seen to be poor teachers who are unable to motivate their students.