HOW DOES TEAM-BASED GUIDED INQUIRY LEARNING IMPROVE STUDENT ENGAGEMENT?

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ABSTRACT

Bioscience is a fundamental component of undergraduate tertiary allied health programs, providing students the scientific basis underlying clinical practice. However, despite its significance, Bioscience subjects prove to be a hurdle for many students (Jordan, Davies, Green, 1999). The introduction of a Process Oriented, Guided Inquiry Learning (POGIL) (an example of an active learning approach) has been shown to significantly improve students' marks in physiology (Brown, 2010). Guided group-based activities would aid in building broader skills and capabilities like teamwork and communication skills, as well as physiology discipline knowledge and skills (Rathner, Hughes, & Schuijes, 2013).

This paper aims to assess the impact of changed teaching approach on student performance in first year physiology. . The redesign of the unit, Bioscience for paramedics 1 (a first year introductory unit for study of anatomy and physiology) in 2013 utilised team-based guided inquiry to encourage time-on-task, active learning and constructive teamwork, to promote good learning and study habits.

Students were centrally assigned to a tutorial team. Teams were made up of between 4-6 students, and these teams, after week one of semester, were then stable throughout the semester. A typical tutorial group was made up of five teams. In 2012, tutorials were of one hour duration, more likely reflected a traditional didactic based tutorial activity. There was no assessment activity based on team participation of function. In 2013, students earned 20% of their final grade based on weekly team participation by submitting weekly team submission based on work done during the tutorial (2.0% per week for 10 tutorials). An opinion-based survey was conducted at the end of semester.

There was no significant difference in final exam result in any of the instances of the subject. Nor was there any difference in intrasemester test results between the 2011 and 2012 instance of the subject. However, students in 2013 outperformed both of the earlier instances of the subject ($p<0.05$) on these tests. Overall, students in 2013 scored higher on their final grade by 8.5% relative to the earlier instances of the subject. Survey results in 2013 indicated a high level of satisfaction with team-based learning and weekly online activities.

Together, these data suggest that team based inquiry learning positively impacts on student learning.

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