MOTIVATING STUDENTS AND IMPROVING ENGAGEMENT IN BIOLOGY UNITS USING ONLINE QS MODULES

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ABSTRACT

MathBench biology modules represent one example of how biology educators can incorporate materials to improve quantitative skills and reasoning into introductory courses. The MathBench- Australia project not only aims to ensure that the science and the maths content of MathBench (USA) modules are accurate, but also appropriate to an Australian context, and further aid to minimise students' negative attitude towards quantitative skills and increase student engagement.

Hence, in this ideas exchange we will explore the strategies to embed the contextualised MathBench modules in first and second year science units to improve student engagement and students' QS.

THE ISSUE

There is international agreement that quantitative skills (QS) are an essential graduate competence in science. However, recent studies in Australia of science students' perceptions of their graduate learning outcomes reveal that while they acknowledge QS as important, they hold negative attitude and perception towards QS. The recent OLT QS in Science project highlighted the substantial challenges in raising the QS of science students, including the availability of proven QS learning resources and identified MathBench, a suite of online modules that have been trialled, tested and adapted across several US universities, as a potential QS learning resource.

The MathBench modules will be developed and contextualised to bring QS- related topics to life using intuitive approaches, everyday situations, and even humour thus improving students' perception and attitude towards QS that would lead to improved engagement and learning.

In this ideas exchange we, together with the participants, will answer this key question: How can we develop a more integrated approach to include readily accessible, contextualised online QS-biology modules to improve student engagement and attitude towards QS?

THE APPROACH

The MathBench- Australia project is modifying, improving and contextualising the MathBench- USA modules to improve students' QS in seven Australian universities. The project team is seeking involvement from other academics to provide feedback and later join in trialling these modules. Thus, in this workshop participants will be shown some of the modified and contextualised modules and will be requested to work collaboratively to identify strategies to embed these modules in first year science units to promote student engagement. Based on the modules that will be presented, participants will identify steps on how they will embed these modules in their own units.

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