On-line Assessment to Promote Engagement and Retention in Engineering Mathematics.

At the University of the West of England (UWE) we deliver a level 1 module, Engineering Mathematics, to a diverse cohort of over 300 students. Module results prior to 2014 indicated that rapid feedback mechanisms were required mid-year to identify early those students at risk of failing in order to provide timely support.

Since 2015 module engagement has been measured through weekly tests which are run as homework. To attain maximum marks, each test must be attempted before an engagement cut-off date. Test scores can be improved throughout the year and multiple attempts are permitted. In addition, we run an on-line January examination to test students’ understanding of the first term’s work.

We use the DEWS e-Assessment system to run the weekly on-line tests and the online examination. DEWS is a fully algorithmic open-source e-Assessment system which was designed and developed at UWE. It is a completely stand-alone web based system used for both summative and formative assessments. This algorithmic approach enables the separate solution, marking and feedback algorithms to respond dynamically to a student's input and as such can perform intelligent marking.

A major advantage to running the January exam on-line, as opposed to running a traditional paper-based exercise, is that students receive rapid feedback on their work, because their submissions are marked immediately. Also academics can quickly identify those students that are at risk on the module, enabling them to specifically target such students at a point where interventions are likely to yield positive results.

I will describe the methodology of the approach and the impact with respect to overall student performance.

Date: Thursday 1 December 2016
Time: 11am - 12noon
Venue: The University of Queensland, St Lucia, Brisbane
        Room 210, Michie Building (Building 9).

DR ALISON HOOPER

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