Creating a UWE statistics e-Assessment community

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Background

This poster reports on an inter-department/faculty UWE Learning & Teaching project that aims to create a community of lecturers who will be able to author and share relevant, authentic and engaging statistics e-Assessments that enrich the learning experience of students.

Statistics is taught across UWE by staff from the various faculties, many of whom do not know each other. These staff vary from those who are subject specific experts (predominantly EDM) to those who have statistics as a secondary skill. Hence statistics is taught by lecturers of varying degrees of ability and confidence.

By creating a UWE cross-faculty statistics e-Assessment community, both subject specific and learning & teaching practice can be shared under the expertise of an EDM statistician and Learning & Teaching Fellow.

Stats R interface

Dewis is a fully algorithmic open source e-Assessment system designed and developed by Gwynllyw at UWE. Dewis’ ability to communicate with the R statistical programming language greatly facilitates the task of generating bespoke datasets and their subsequent analysis.

The main output in the first year of the project is the development by Weir & Gwynllyw of the Dewis-R interface which is an e-Assessment authoring tool where the questions are composed using a simplified Dewis question structure.

e-Assessment mechanics

- A student logs on to DEWIS and downloads a bespoke data set that is generated using embedded code from the statistics programming language R.
- The student analyses the data using statistical software and uploads to DEWIS numerical results and analysis interpretation.
- DEWIS marks using answers generated from R to emulate what the student sees in the statistical software.
- DEWIS supplies full and immediate feedback.

Example

During the first year of the project various statistics e-Assessments have been trialed by Bonnet & Mourne. The next task for them is to learn to author their own e-Assessments using the Dewis-R interface.

DEWIS-R Resource page

http://dewis.uwe.ac.uk/resources/stats

Join the community

Interested parties can trial online some examples from the following web address:

DEWIS-R Resource page

http://dewis.uwe.ac.uk/resources/stats

Screenshot of the example question which concerns the application of the one sample t-test to test the null hypothesis of a population mean.

Screenshot of the feedback for a student's attempt showing the correct solution and the students submission that included wrong and not answered (NotAns) parts indicated in red.