Monthly series on Computer-Aided Assessment in Maths

http://ltsn.mathstore.ac.uk/articles/maths-caa-series

Computer-Aided Assessment (CAA) is likely to become an important form of testing in the next decade, and we have initiated a series of monthly articles on CAA in mathematics. Please read the articles as they appear and send your comments to the discussion list maths-caa@jiscmail.ac.uk. Below are summaries of some recent contributions. You are invited to suggest articles for this series by contacting the series editor Cliff Beevers, email c.e.beevers@hw.ac.uk

November 2003: Question and Test Interoperability (QTI): Extending the specification for Mathematics and Numerical Disciplines

Contributed by Colin Milligan of the Scottish Centre for Research in On-Line Learning and Assessment, Heriot Watt University.

This short article describes the efforts being made to extend the existing Question and Test Interoperability (QTI) specification to support numerical assessment as used in the Mathematics community. The article reports on a meeting held at Heriot-Watt University for interested parties and describes some of the critical issues and the steps taken to address them by the community.

December 2003: Web-Based Assessment of Student Progress Files

Contributed by Neil Challis, Harry Gretton and Jeff Waldock of Sheffield Hallam University.

Student Progress Files are becoming an established part of the HE scene, following the National Committee of Inquiry in Higher Education, and subsequent work involving the QAA. The Mathematical Sciences are not immune from this development. It is widely recognised that for students in HE, personal development planning is a useful and necessary activity to help them to become more effective and independent learners.

There are two particularly interesting features. One is that any work on a progress file should be embedded in the student's main area of study, and that therefore subject academics need to be involved; the other is that the Progress File should include a means by which students can monitor, build and reflect upon their personal development. This paper describes the implementation of the student portfolio element - delivered and managed by a web-based system developed at SHU. This is indeed then a CAA development, although dissimilar in nature to many other developments reported in this CAA series. At SHU progress files in Mathematics are assessed at regular intervals through the course, and some early results of this process are reported.

January 2004: MacQTeX Randomised Quiz System for Mathematics

Conributed by Frances Griffin of Macquarie University, Sydney.

The MacQTeX Randomised Quiz System has been under development and in use at Macquarie University, Sydney, since 1999. It provides online quizzes in PDF4, 5 format for mathematics, having randomised question parameters which allow students to practice many examples of the same quiz. The quizzes are automatically marked and contain fully worked solutions which aid students in understanding the mathematical concepts involved. Questions may be multiple choice, or allow answers to be entered in numeric form, text or as mathematical expressions. A staff interface contains a suite of tools which allows lecturers to monitor student activity, manage quiz deadlines and to create new quizzes. The choice of PDF4, 5 combines the highest quality mathematics typesetting, self-contained interactivity, platform independence for students using the system, and negates the need for any custom software or plugins to be installed on the student's computer. It is also light on server resources, requiring no commercial software packages other than a UNIX operating system (at present Mac OS X).