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## **Sharing Assessment across Institutions and VLEs**

## Day 1 - Parallel II (14.35-15.05)

The partners in three recent JISC projects have been creating assessment resources using standards-based tools conforming to the IMS Question and Test Interoperability standard, version 2.1 (QTI 2.1). Using the tools made available during the projects, we have created questions and tests which can be delivered via any VLE which has IMS Learning Tools Interoperability (LTI) enabled. Among the partners we have people using these resources with students, via Moodle, Blackboard and Sakai.

No conversion is needed in order to use the resources in different VLEs using the LTI facilities in the delivery software. In addition, the questions and tests can be used in several different delivery applications. This facilitates sharing resources with colleagues in other institutions.

The questions are from Mathematics, Engineering, Business Studies and Biology; they may require mathematical input, and mathematical expressions can be manipulated during the randomisation process and when interpreting the input. Multi-part questions are possible and input values can be used in marking dependent inputs. The questions have feedback targeted at the student's input, together with hints and full solutions. Our students like using the resources: the immediate access to hints and feedback is well received, and we find that learning in this way helps them to build confidence. We have used these questions and tests for both formative and summative assessment over the past academic year, with very pleasing results.

The collection of Mathematics questions produced by the project partners have been reused in several institutions. Some partners have also used the original questions as the basis for new questions which have then been added to the collection. In a number of cases, context has been added to resources to make them more suitable for use in other disciplines. The partners are also producing training and support resources to help colleagues in designing and creating questions.

A question bank has been created for the projects, based on the Physical Sciences Question Bank, and this is used to house the Maths and Sciences collection, along with several questions from other disciplines created during the projects.