

Exploring question-feedback models in online assessment resources

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Workshop structure

- Introduction – Presentation – quick overview
- Questions and feedback
 1. Diagnostic test
 - Demonstration - hands on
 - Discussion
 2. Sequencing questions
 - Demonstration - hands on
 - Discussion
 3. Resistor network
 - Demonstration - hands on
 - Discussion
- Tools and sustainability
- Discussion – how could you use these models in your teaching?

Background

- 4 small projects
 - Using QTI V2.1
 - Formative assessment
 - Diagnostic test
 - Explore possibilities of QTI assessment resources
- PhD research – prototype authoring tool

Preparation for Demos

- Go to <http://qti-support.gla.ac.uk/ltidemo>
- Enter your name and email address – this info is only used for the current session, it isn't stored
- Click on “QTIWorks demonstration examples”
- You should see a list of links to demo resources – if not, let me know!

Demo 1: Diagnostic Test

- Questions
 - Randomised Maths questions
 - Multiple choice
 - Correct answer
 - 2 distractors
 - “I’ve forgotten...”
 - “I’ve never seen this before”
- Feedback
 - Links directly to online revision material
 - Different for each selected answer
 - Correct answer gets a link too, to reinforce student’s reasoning
- Test Feedback
 - Contains the links relating to the student’s responses
 - Can be downloaded for future reference
- Try a short diagnostic test on adding fractions – “Diagnostic Test Demo - Adding Fractions”

Discussion 1: Diagnostic Test

- Questions?
- Application to your teaching?

Demo 2: Sequencing Questions

- Questions
 - Ordering exercise
 - With distractors – options that should not be in the sequence
- Feedback
 - Allows for options that can occur in alternative order
 - Marks for selecting correct options
 - Marks for correct order (this option before/after that)
- Usage
 - Previously delivered as scanned paper-based exercise, now via Moodle
 - Authoring tool developed, enabling students to create their own questions (demo later)
 - Students can upload their questions for others to try
- Try some Sequencing Questions on the demo page (you can try each one several times – click Reinitialise to start again, options are reordered each time)
 - “Sequencing Question Demo - Malaria”
 - “Sequencing Question Demo - Student as Author”
 - “Sequencing Question Demo - Mathematical Proof”

Discussion 2: Sequencing Questions

- Questions?
- Application to your teaching?

Demo 3: Randomised Diagrams

- SVG diagrams work in QTI, can show randomised values
- Questions
 - Resistor network – randomised resistor values
 - Try the demo question “SVG Demo - Resistor Network” – click Reinitialise for new values
 - Show resistor values on diagrams
 - Can choose
 - Description of how to do the question
 - Worked solution
 - Work through steps, or
 - Give final value immediately
 - Feedback
 - Diagrams show resistor values at each stage
 - Original QTI question by Dick Bacon
 - Laplace Transforms - randomised graphs (step functions)
 - Try the demo questions “SVG Demo - Laplace Transform” – click Reinitialise for new values
 - Show graph
 - Identify function or give Laplace transform – maths expression input
 - Feedback
 - Show interpretation of input
 - Report on errors identified in maths expression

Discussion 3: Randomised Diagrams

- Questions?
- Application to your teaching?

Student & Staff Experience - Biology

- Sequencing questions in Biology used for many years as exam questions
 - Paper-based, off-line marking by scanning
 - Automated but slow feedback
- Try online sequencing questions via Moodle
 - Model question developed and tested
 - Immediate feedback, retry, etc...
 - Authoring tool developed, made available this year after exams
- Little feedback from students
 - Generally positive about online sequencing questions
 - Only one had tried authoring – intro during class time would help

Tools and Sustainability

- Authoring tool demo
 - Authoring tool at <http://learn.gla.ac.uk/niall/QTIWizards/>
 - Download Sequencing Question authoring instructions at <http://e-learning-services.org.uk/media/media/documents/SeqQuesAuthoringToolIntro.pdf>
- Create sequencing questions; choice-with-certainty, etc., coming soon

Discussion

- How could you use these resources in your teaching?