Approaching higher order learning through automated quizzes
Overview of session

• Explore a working definition of higher order learning
• Appreciate that there are many models that describe learning hierarchies
• Understand why one model has been focussed on as opposed to others
• Engage in a strategy for converting learning hierarchies into actionable items
• Participate in an automated quiz
What is higher order learning?

Learning can be thought of as occurring on a **continuum of complexity** – while some things are quite straightforward, others incorporate increasingly sophisticated levels of complexity.
Learning taxonomies

- There are numerous models that describe levels of learning
- Models have different levels of relevance across different subject areas
Blooms (revised) taxonomy

- Is simple to understand
- Uses largely non-technical language
- Has been reviewed extensively as well as revised
- Is used the world over
- Is readily transferable across diverse subject areas
Adding verbs

• *How* will learning be measured (within each hierarchy?)
• Generate a series of relevant verbs
• Relevant is determined by
  • Learning hierarchical level
  • Nature of assessment (e.g. quiz, report, infographic, blog etc...)
Example
Now its your turn.

How many verbs can you come up with that relate to ‘application’?

Remember, your verbs needs to relate to automated quizzes.
Utilise the settings to their full potential

• Designing higher order learning questions is not enough to ensure a good quiz has been developed
• What is the purpose of the quiz? (e.g. formative vs summative?)
• What is the quiz worth?
• Do all questions need to have the same weighting?
• Think about your quiz as a living artefact that you need to keep feeding – each year, add a few more questions that can be drawn on.
Consider the behaviour of the quiz

- Should students complete the same questions or can they be different?
- Can the order of questions be changed?
- Can the order of responses be changed?
- Do you need to impose penalties for incorrect responses?
- When should students be informed about the accuracy of their responses?
- Is it appropriate to add feedback?
- What sort of feedback? (e.g. video?, text? General? Specific?)
Final thoughts

• Higher order learning can be addressed through automated quiz questions
• Setting up automated higher order quiz questions can be time consuming
• Effectively designed quiz questions may be (time) costly to set up but can save time with marking and via recycling and can even give you extra time in the long run
• Not every question necessarily needs to address higher order learning – this will depend on needs
• Students like tests for practicing, revising and reinforcing
• Can provide real-time feedback
Experiencing the quiz

- Complete the online quiz
  

- Self-reflect on benefits and limitations of this approach
This is the concept map that was generated from the shared activity.

Please note: this map has not been finalised, and may need further refining. Each verb (or phrase) next needs to be assessed for its capacity to be administered in an automated way. For example, ‘sketch’ may be something that is easy to ask students to do to assess their ability to apply information in a new context. What is considerably more challenging though is setting this up in a way which does not require teacher/ tutor intervention.