



## Online variable scenario based assessment

The online environment offers a range of challenges and opportunities in assessment.

In response to this, **Rob Kivits** (SBaT) and **Ken Doust** (SESE), in collaboration with **Rowan Freeman** (Keypath), applied for and gained a 2016 SCU Teaching and Learning grant in 2016 for \$7,000 to explore possibilities. In 2017 they will trial an online variable scenario based assessment. This will be implemented in a simulated engineering project portfolio management activity in the unit MNG93220 Project Procurement and Contract Management in the Master of Project Management. If the trial proves successful and they can see it works well with students, they aim to integrate it into a further unit, this time in the Master of Engineering Management.

The two fully online units in the trial are offered in conjunction with Keypath, which will be developing the software required to support implementation.

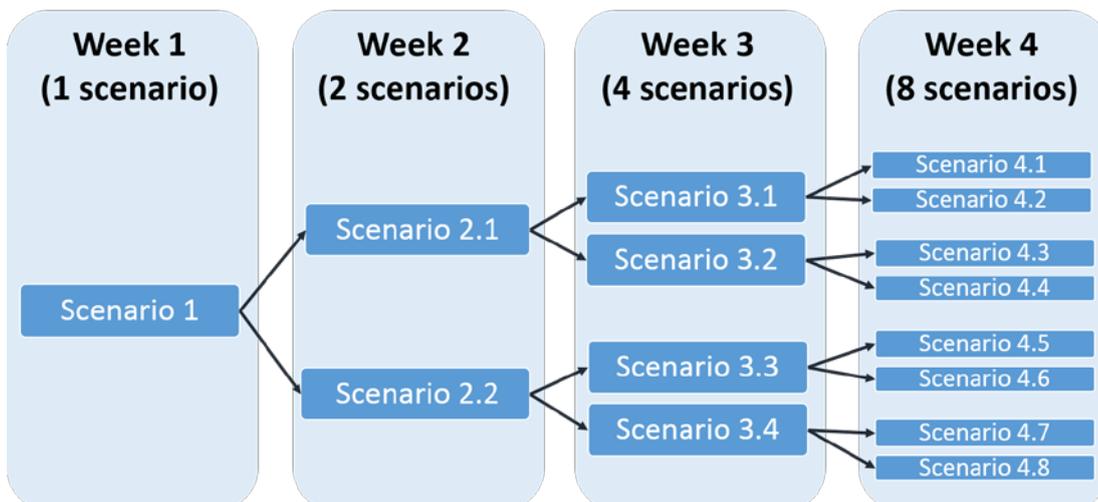
### The assessment task

In the assessment task, students will experience a scenario based simulation of the real world, working through a problem over four weeks. Each week they will have to decide on the next course of action to take. This decision will never be 'wrong' nor lead to a dead-end, instead simply determining the path students follow through the simulation.

The decision making process is integral to encouraging reflective practice, and for the final assessment students will submit both the product developed and a written piece that lays out the reasons for their decision each week. Both will be graded.

### Building the scenarios

The challenge for Rob and Ken is to develop the full suite of scenarios required. With the assessment task running over four weeks, and each week offering a decision between two options, a total of 15 scenarios will need to be developed.



### Outcomes

The team will take a scholarly approach to implementation and investigate student engagement and student learning. Data will be collected from: student and teacher feedback, analysis of student reflections, and Keypath analytics. Their experiences and data will be shared with SCU staff who may also be interested in using such an approach through workshops in 2017.

## Background

Currently SCU offers 6 Master degrees through a fully online learning environment, in collaboration with Keypath. While online education delivery models are on the increase, different and innovative ways of assessing online students are needed. It is common that assessments in the form of quizzes, essays and reports still dominate.

To set SCU apart from other universities and to show that SCU has fully embraced online education, the adoption of new methods of online assessment, such as simulated scenario environments and/or gamification need to be investigated.

It is well known that engagement affects learning and motivation (Guthrie et al., 1998) and has been the subject of an increasing number of studies on education (Bouvier et al., 2014, Clark et al., 2016). Scenario based learning can engage students to learn (Tupe, 2015), and can stimulate the ability to think and create meaning, as well as have a positive impact on learners' problem-solving outcomes (Eseryel et al., 2014). The main findings to date emphasise the importance of both enjoyment and motivation to sustain students' engagement (Abdul Jabbar and Felicia, 2015, Crocco et al., 2016). Also, in order to foster students' complex problem-solving competence, assessments need to be designed in a way that provides complexity with sufficient autonomy for them to make choices along with attainable challenges to help them move closer to their goals (Eseryel et al., 2014).

A common learning approach for online scenario based learning is a five step process (Coghlan, 2015): 1-present the student with a problem; 2-identify relevant facts to that problem; 3-work out knowledge gap; 4-self-directed learning to cover knowledge gap; and 5-apply knowledge to solve the problem. A series of scaffolded scenario items helps develop the students' understanding of a complex system. In particular, results suggest that the students are able to gain a more sophisticated, nuanced understanding; to manage information and solve problems that are relevant to real-world situations; and, for many, to demonstrate a more socially responsible approach to maintain ethical behaviour in their problem-solving activities (Coghlan, 2015).

The proposed variable-scenario based assessment strategy closely aligns to this learning cycle. The proposal is founded on a belief that students will welcome this different way of assessment as a break from 'ordinary' quizzes, essays and reports.

We look forward to seeing the outcome of the trial.

## References

- Abdul Jabbar, A. I. & Felicia, P. 2015. Gameplay Engagement and Learning in Game-Based Learning: A Systematic Review. *Review of Educational Research*, 85, 740-779.
- Bouvier, P., Lavoué, E. & Sehaba, K. 2014. Defining Engagement and Characterizing Engaged-Behaviors in Digital Gaming. *Simulation & Gaming*, 45, 491-507.
- Clark, D. B., Tanner-Smith, E. E. & Killingsworth, S. S. 2016. Digital Games, Design, and Learning: A Systematic Review and Meta-Analysis. *Review of Educational Research*, 86, 79-122.
- Coghlan, A. 2015. Using Scenario-Based Learning to Teach Tourism Management at the Master's Level. *Journal of Hospitality & Tourism Education*, 27, 1-9.
- Crocco, F., Offenholley, K. & Hernandez, C. 2016. A Proof-of-Concept Study of Game-Based Learning in Higher Education. *Simulation & Gaming*, 47, 403-422.
- Eseryel, D., Law, V., Ifenthaler, D., Ge, X. & Miller, R. 2014. An Investigation of the Interrelationships between Motivation, Engagement. *Journal of Educational Technology & Society*, 17, 42-53.
- Guthrie, J. T., Van Meter, P., Hancock, G. R., Alao, S., Anderson, E. & McCann, A. 1998. Does Concept-Oriented Reading Instruction Increase Strategy Use? *Journal of Educational Psychology*, 90, 261-278.