How Deakin University implemented Authentic Assessment across a STEM Faculty

Using
- Group Member Evaluation
- Team based Learning

<table>
<thead>
<tr>
<th>COURSE FORMAT</th>
<th>CLASS SIZE</th>
<th>LMS</th>
</tr>
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<tbody>
<tr>
<td>Online/Hybrid</td>
<td>&gt; 200</td>
<td>D2L BRIGHTSPACE</td>
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<tr>
<th>DOMAIN</th>
<th>LEVEL</th>
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<tr>
<td>STEM</td>
<td>Undergraduate</td>
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Background

About the institution
As one of Australia’s leading tertiary education providers, Deakin University offers a personalised experience enhanced by world-class programs and innovative digital engagement. We lead by creating opportunities to live and work in a connected, evolving world.

About the instructor

Dr. Tiffany Gunning is a Senior Lecturer Curriculum Design and Development at Deakin University. She combines her scientific background, expertise in secondary and tertiary education with her interest in the development and implementation of e-Learning tools, to provide online solutions to educational challenges.

Course objectives

Students develop transferrable employability skills, particularly collaboration, and feedback delivery.

Creating
Evaluating
Analyzing
Applying
Understanding
Remembering

BLOOM’S TAXONOMY

The learning activities, according to Bloom’s Taxonomy, were mainly at the level of:

- Understanding subject specific content
- Applying learned knowledge in individual and group projects
- Evaluating peers and group members’ performance
An innovative project

At the Faculty of Science, Engineering and Built Environment of Deakin University, Dr. Gunning and her team have been implementing a 2-year long, multi-faceted project to prepare students for the world of work and encourage lifelong learning.

This project, running from 2021 to 2023, involves scaffolding authentic assessment tasks across 3 touch points (steps) in every undergraduate course offered by the faculty. A detailed description of each touch point can be found below:

Step 1: Define authentic assessment

The teaching team started out by working on a shared definition of authentic assessment, based on consultation with other faculty members. This shared definition provided the first setting stone for the current project. Implementing authentic assessment also requires a change in mindset: from prioritizing hard skills – discipline to focusing more on soft skills, or transferable skills, as preferred by the teaching team.

To decide if a task should be considered an authentic assessment, faculties can rely on 4 attributes: Workplaces, Community, and Lifelong learning; Co-created assessments, Graduate transferable employability skills, and Assessment Structure.

"Authentic assessment requires students to engage with a problem or task that is contextualized within a realistic environment and assesses the knowledge skills and attitudes required in the workplace community and for lifelong learning."

Tiffany Gunning
Senior Lecturer, Deakin University
Step 2: Create assessment tasks

Teamwork is a key element of authentic assessment, being ranked among the top three essential skills to global employers.

That’s why the Deakin team decided to adopt the team-based learning (TBL) approach when designing the assessment tasks. Challenges undoubtedly emerged during the implementation process, which were associated with group work management. For teachers, it is difficult to monitor many groups in online settings. For students, they faced the issue of free-riding and fairness. This is where pedagogical technology stepped in, to support instructors addressing these challenges.

FeedbackFruits Group Member Evaluation and Team Based Learning tool were chosen to support the implementation of these assessment tasks.

Dr. Gunning provided two example courses in which these tools were integrated.

Course examples

**Course 1 (Group Member Evaluation)**
Students worked together on a real-world challenge, while the instructors took the role of manager and client.

Using the Group Member Evaluation tool, elements of self, peer, and group assessment were issued to ensure accountability, reduce free-riding, and stimulate self-regulatory skills.

**Course 2 (Team Based Learning)**
The activity was designed following the main steps of the team-based learning process. Three consensus workshops were organized to help students get familiar with the approach and develop transferable skills.

The workshops were followed by a reflection step, where students reflect on their own performance and make plans for the future.

“The term 21st century skills is becoming quite popular to describe these transferable skills. And we've actually begun referring to these transferable skills as transferable employability skills to make that explicit link for students.”

Tiffany Gunning
Senior Lecturer, Deakin University
Step 3: Collect feedback

The teaching team has just concluded the trial phase during the first trimester, in which authentic assessment tasks were implemented across six core subjects at all course levels.

To scale the project to more classes and subjects (a total of 23 according to the KPIs) for the upcoming trimester, feedback was collected. The plan is to operate authentic assessment tasks over 12 months, with focus on first year courses. And for the long-term vision, Dr. Gunning hoped to get more units and subjects on board with this project.

“We will not narrow our focus to just these three touch points in every course, what we’re hoping to do is spread the love and hope for some additional units to come on board in this space.”

Further resources

Here are some more resources on authentic assessment, shared by Dr. Gunning and the FeedbackFruits team:

- Full presentation of Dr. Gunning at inspirED 2022
- Dr. Gunning’s paper on authentic assessment: ‘Defining and measuring authentic assessment: a case study in the context of tertiary science’
- Article on 5 strategies to implement authentic assessment in online/hybrid classroom

“Self and peer assessment at our faculty has provided teaching teams with evidence of student engagement, as well as enabling students to hold each other accountable within the task.”

Tiffany Gunning
Senior Lecturer, Deakin University