

# **Authentic Assessment at The University of Queensland: A Scoping Paper**

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## 1. What is Authentic Assessment?

The *NMC Horizon Report: 2018 Higher Education Edition* describes authentic learning as an ‘umbrella term for several important pedagogical strategies that seek to immerse learners in environments where they can gain highly practical, lifelong learning skills’ (Adams Becker et al. 2018, p. 38). Similarly, authentic assessment tasks are, or resemble, real-life problems faced in workplace or professional practice situations. The assessment may be carried out in the workplace, in the field or conducted on campus using techniques such as scenarios, role plays or simulations.

The *University of Queensland’s Student Strategy 2016 – 2020* considers authentic assessment as a key initiative for creating game-changing graduates.

Authentic assessment gives students the opportunity to demonstrate:

- Achievement of the essential and significant knowledge, skills and attitudes identified in the course learning outcomes
- Innovation and leadership through the integration of knowledge, skills and attitudes to construct meaning and create new knowledge
- The level of their learning through evidence of proficiency.

Work by Gulikers, Bastiaens and Kirschner (2004) explains the shift in higher education assessment approaches since the 1990s towards authentic assessment (see Table 1). Characteristics of authentic assessment include contextualised summative tasks that focus on higher-order thinking in which students take increasing responsibility for what they learn, aided by regular formative interactions with the educator.

**Table 1: Differences between Test-based Assessment and Authentic Assessment**

Testing Culture (Birenbaun & Dochy, 1996)*	Authentic Assessment (Gulikers et al. 2004)
Rote learning - memorisation	Students responsible for their own learning
Standardised tests	Interpretative, performance, collaborative
Decontextualized tasks	Contextualised tasks
Low level cognition skills required	Higher order cognition skills required
Often multiple choice format	Various alternative formats
Summative only	Formative (multiple touch points with educator) and summative
Used to rank student performance	Focused on learning and competence development

\*(cited in Gulikers et al. 2004) Source: Gulikers et al. (2004)

## 2. Why use Authentic Assessment?

Authentic assessment is an effective assessment practice in which the educator has clear evidence if the learning outcomes are achieved. Students value authentic assessment highly and it is believed to encourage them to engage in deeper and more productive learning.

Authentic assessment has these strengths:

- A clear alignment of learning outcomes, learning activities and assessment tasks
- Both the process and the final product are important for measuring student performance
- There is not usually a single solution; rather, a variety of outcomes can be reached depending upon the process undertaken
- The assessment may be teacher or industry-expert assessed, but is also very suited to self- and peer-assessment
- Criterion-referenced marking is used, usually in the form of a rubric.

An important benefit of using authentic assessment is that it lends itself well to student collaboration so the operational knowledge and skills needed for industry are developed, soft skills are improved and the capabilities collectively known as [21<sup>st</sup> Century competencies](#) are acquired. These are:

- critical thinking
- creative thinking
- lifelong learning
- digital literacy
- collaboration
- self-directed learning
- complex problem solving
- responsible citizenship
- effective communication

## 3. When to use Authentic Assessment



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Some disciplines will require students to demonstrate a high degree of authenticity and some disciplines will lend themselves to authentic assessment more readily, however, all course co-ordinators should seek to include authentic assessment tasks in their course. It is not intended that all assessment in a course be replaced. Existing assessment tasks could continue to be used, dependent on their purpose, but having a broader range of assessment, particularly authentic assessment, will add validity and reliability to how student learning is measured.

Authentic assessment is suitable for all levels of a program, but the complexity of the tasks should build with the level of the course and the experience of the students. Student experience factors which should be considered include:

- Knowledge and skills
- Ability to collaborate
- Capacity for self-regulation and reflection.

Towards the end of a program, the learner should be expected to be performing more diverse authentic assessment tasks and demonstrate a level of competency reflective of their starting point in industry. A capstone course or extended placement with a substantial authentic assessment component can nurture the transition from student to professional graduate.

## 4. Formative Assessment and Authentic Assessment

Formative assessment is an integral part of authentic assessment. Black and William (1998) acknowledge that ‘there is a body of firm evidence that formative assessment is an essential component of classroom work and that its development can raise standard of achievement’ (p. 12). Formative assessment gives the teacher feedback about student progression and can be categorised into three different types, each of which can contribute significantly to student learning:



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- On-the-fly (those that happen during a lesson)
- Planned-for-interaction (those decided before instruction)
- Curriculum-embedded (embedded in the curriculum and used to gather data at significant points during the learning process) (Heritage 2007).

The teacher should aim to develop formative assessment tasks which apprise them of student progress towards the learning outcomes and alert them to any changes needed in the instruction. Formative assessment also provides students with effective feedback from the teacher, or the task itself, to help support their learning and develop effective learning techniques. In addition, self- and peer-assessment skills can be developed to contribute quality formative feedback to students.

### 4.1 More Varied Formative Assessment

While many higher education teachers recognise the value of formative assessment, its inclusion often takes the form of a series of automatically marked objective question tests delivered through the learning management system (LMS) to provide the student with immediate feedback on their attainment of knowledge. The rise in the use of these quizzes parallels the evolution of the LMS for delivery of course elements. Self-marking multiple choice questions are beneficial, particularly when the questions are written in such a way that the learner is required to demonstrate their higher-order thinking skills (as classified in [Bloom's Revised Taxonomy](#)), rather than just respond to questions which test only the lower-order thinking skills of recall and understanding. There is also an opportunity to broaden the range of assessments presented, even on an LMS, to include those which are most suited to formative assessment.

### 4.2 Formative Assessment in the Online Environment

Online formative assessment can be an effective way to engage students in meaningful educational experiences. Teachers can aim for effective formative assessment activities which will encourage greater student engagement with the course materials and one another, whether it be in face-to-face teaching or online. E-Assessment can help the teacher achieve these goals in the online space.

According to JISC (2010) educational technologies can be used to implement authentic and formative assessment for purposes including:

- Dialogue and communication: On-line interaction via forums, blogs, email and social media can enrich feedback and help to clarify learning goals and standards.
- Immediacy and contingency: Interactive online tests and tools in the hand (such as voting devices and internet-connected mobile phones) can facilitate learner-led, on-demand formative assessment. Rapid feedback can then correct misconceptions and guide further study.
- Authenticity: Online simulations and video technologies can increase the discriminatory power of assessment and support risk-free rehearsal of real-world skills in professional and vocational education.
- Self-evaluative, self-regulated learning: Activities such as peer assessment, collection of evidence and reflection on achievements in e-portfolios and blogs can generate ownership of learning and promote higher-order thinking skills, in turn improving performance in summative assessment (p.17).



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The use of e-Assessment strategies has a positive influence on student learning. Research shows that the formative feedback and enhanced learner engagement that arise from valuable learning experiences can foster a learner- and assessment-centred focus. Gikandi, Morrow and Davis (2011) found that 'online formative assessment needs to encourage and promote the student learning experiences through a variety of authentic tasks thus promoting engagement and transferability' (p.2338). These authentic assessment activities should ideally encourage learners to engage not just with the

content but with others, in particular their peers and teacher.

Gikandi et al. (2011) also noted the literature supports the argument that ongoing authentic assessment and interactive formative feedback helps guard the validity and reliability of online formative assessment. Effective use of online formative assessment can engage students and teachers in meaningful educational experiences which provide them with opportunities to collaboratively identify learning needs and devise strategies of how to meet those needs. This gives the teacher ample opportunities to document, monitor and assess students' progress and achievements, which they can use to inform the formative feedback. As a result, the learning environment is improved, learning is enhanced and engaged students are motivated and more able to self-regulate their own learning.

## 5. Authentic Assessment at a Program Level

We need to be sure students have gathered the essential and significant knowledge, skills and attitudes on the completion of their program. To assess learning at the program level it may be assumed that looking at all of the course assessment requirements together will give an indication of how well the students' learning has met the program's learning outcomes. But assessment at the program level is more than a culmination of course assessment and involves judgements determined

by measuring performance in capstone courses, placement tests, and exit interviews and alumni surveys. (Cornell University 2012).

Capstone courses aim to bring together all of the learning undertaken in preceding courses and have an intensive suite of authentic summative assessment to ensure those essential and significant knowledge, skills and attitudes demanded by the program's learning outcomes have been met. With rigorous assessment in place in a capstone, some of the previous courses could then be measured on a pass/fail basis, placing a greater emphasis on student learning rather than the achievement of grades. This can only be effective if the capstone course is a true capstone course as Hatfield (2012) describes; 'capstone courses and projects can be very effective in assessing student achievement of program-level learning outcomes, but only if the course — and the assignments — have been carefully constructed to do just that' (p.5).

## 5.1 Program Oversight

A suite of assessment can be developed based on program level learning outcomes rather than each course coordinator simply focusing on their course level learning outcomes. This calls for oversight of program level learning outcomes and the mapping of assessment tasks to program outcomes. This approach provides the advantage of ensuring students have the opportunity to experience repeated assessment at increasingly deeper levels to judge their attainment of knowledge, skills and attitudes they are to develop in the program. An added benefit is the strengthening of the validity of the assessment.

## 5.2 A More Formative, Less Summative Approach to Assessment

A program level approach to assessment allows for the use of more formative and less summative assessment. To do this requires more regular non-assessed tasks (or tasks marked Pass/Fail) which must be completed, or the setting of assignments that cause student effort to be more evenly spread across the course (or the converse can be used i.e. fewer but large complex assignments).

Some of these assessment may still contribute to summative judgements. If most assessment tasks are changed in this way they require less marking, with a P/F result only, and give the opportunity for the teacher or student peers to concentrate on providing better and more effective feedback. Formative feedback which informs the student on how to improve the quality of their work will be deemed to be what is most important, not a grade that might otherwise have been awarded.



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With the focus on formative feedback rather than a grade, the feedback will encourage student growth and effort, keep the emphasis on learning and encourage students to take risks with their learning. The feedback should enable students to demonstrate deeper learning as they progress on subsequent 'like' tasks. 'Like' tasks, with similar criterion-referencing within the same course and ensuing courses, give students the opportunity to improve and embed their learning.

## 6. Time-Efficient Feedback

Koh (2017) suggests 'open questioning, descriptive feedback and self- and peer-assessments can be easily incorporated into authentic assessments' (p. 3). Feedback need not be overwhelmingly demanding of a teacher's time; informal oral feedback is a valuable time-efficient method and the use of self- and peer-assessment means there is less dependence on feedback coming from the teacher and more from the student cohort. Additionally, if the teacher makes increased use of exemplars for students, the students will be guided by those exemplars and come to understand what the course aims for them to achieve and internalise the expectations for the course. Students can assume more responsibility for their own learning and undertake self- and peer-assessment tasks using the exemplars as their guides when they have a greater understanding of what is required of them, and so become less reliant on the teacher.

Students will steadily improve their skills for making critical judgement on their own and their peers' work through:

- Accessing the exemplars
- Reflecting on their learning and progress
- Receiving high quality feedback on the quality of their own work and that of their peers
- Inclusion within the culture and expectations of the discipline.

## 7. Increased Student Responsibility

An issue which concerns many teachers is the time required of them to produce insightful feedback and the perception that their efforts are not rewarded by a corresponding improvement in the quality of the students' subsequent work. Less extensive written feedback is needed if students have more responsibility to improve the quality of their own output. Sadler (1989) argues that improvement to the quality of work will follow if students are able to appraise their own work as they do it. To do so effectively, students need the skills to:

- Be able to recognise and value quality work
- Judge the quality of their work in progress against the exemplar
- Be able to change tack and improve the quality of their product.

As students progress through their courses and the program, they need to develop these skills and be able to take increasingly more responsibility for the assessment and the feedback which takes place. This will help to establish them as self-regulated learners who can effectively monitor and determine the quality of their own work and that of their classmates (Nicol 2010). These are essential skills graduates need to ensure they are life-long learners and develop functional 21C competencies employers seek.

Course and program coordinators should aim to develop a culture of shared responsibility for assessment and feedback where dialogue about expectations, critical judgements and effective feedback is an integral part of the student-teacher relationship.

## 8. Support from Learning Analytics

The *NMC Horizon Report: 2015 Higher Education Edition* identifies key advantages learning analytics will bring to student learning. Learning analytics have the potential to 'build better pedagogies, empower students to take an active part in their learning, target at-risk student populations, and assess factors affecting completion and student success (Johnson, Adams Becker, Estrada & Freeman 2015, p. 12). Learning analytics can provide more detailed evidence of the strengths and weaknesses individual students have when the results are mapped to the learning outcomes and the assessment criteria of a course. This information can then be used by both the teacher and students to help charter a path to more successful outcomes.



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Adams Becker et al. (2018) note that the analysis of vast amounts of data 'provides an unprecedented opportunity for colleges and universities to improve student outcomes' (p.38). UQ aims to deliver, alongside the UQ2U blended courses project, an analytics solution with:

- Course-level academic-facing platforms that provide information about online and in-class engagement, at-risk students and assessment, and facilitate the instructor-student feedback loop.
- Course-level student-facing platforms that inform students about their engagement and learning.

If analytics are applied to formative assessment tasks, the information may be used to improve student performance for subsequent summative assessment, which is similar in concept to [assessment for learning](#), where a continuous cycle of feedback directs the learner's progress to accomplishment (Macfadyen, Dawson, Pardo, & Gasevic 2014).

## 9. How to Get Started with Authentic Assessment

Courses with authentic assessment are often designed by first identifying the task/s that the students' need to demonstrate their mastery of, and planning backwards from there. Knowing the task/s can help establish the learning outcomes (what significant and essential knowledge, skills and attitudes need to be learnt), and determine which learning activities will best enable students to achieve those goals.

Course design could incorporate [authentic learning](#) or [experiential learning](#), both of which are methods of instruction known to increase student engagement.

Gulikers, Bastiaens and Kirschner's (2004) [five-dimensional framework](#) can help with the design of authentic assessment using a set of questions for the course designer to address:

1. *What do you have to do?* A task which reflects what is done in professional practice.
2. *Where do you have to do it?* The task should mirror the way knowledge, skills and attitudes are used in a real physical contexts.

3. *With whom do you have to do it?* A social context which involves social processes that are equivalent to those in real life situations.



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4. *What has to come out of it?* What is the result of your efforts? This will involve:

- a. A product or performance
- b. Demonstration of competencies
- c. Array of tasks with multiple indicators of learning
- d. Oral and/or written presentation to others.

5. *How will what you have done have be evaluated or judged?* Criteria and standards: set explicit criteria which are transparent to the learner and classify levels of proficiency standards. (pp77-78)

Learn more about [strategies](#) for designing authentic assessment.

## 10. Challenges

The inclusion of authentic assessment can be time and labour intensive to organise and manage the experiences, and to develop a well-defined criterion-referenced marking scheme to ensure you have a reliable and valid means of measuring achievement. It can allow a greater margin of evaluator bias within judgments of performance. Read more about these and other [challenges](#).

## 11. Conclusion

Authentic assessment at UQ is an important part of the *Student Strategy 2016-2020* and will assist our students prepare for their professional life after graduation. Taking a programmatic approach enables students to be guided progressively in the development of necessary disciplinary and generic employability capabilities so they can be confident, knowledgeable, critical thinkers and agile problem solvers in the rapidly changing workplace.

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