Assessment design and strategies for student learning
Foundations in Assessment paper 3

March 2022

This briefing paper is the third in a series planned to supplement Cambridge’s Framework for Assessment by providing fuller definitions and explanations of key terms and concepts around assessment practices.

Table of Contents
1. Introduction: assessment design options in the Cambridge context
2. Assessment strategies: designing for student learning
3. Assessment design strategies
4. Components of assessment design to ensure consistency, reliability and validity
5. The role of assessment rubrics
Reference list

1. Introduction: assessment design options in the Cambridge context

The Framework for Assessment (2022-23) presents details of approved modes and methods of assessment which may be adopted without the need to seek permission from GBEC for changes to assessment. It also encourages Faculties and Departments to consider other discipline-specific or creative assessment modes or methods not captured in the approved framework, while noting that assessment needs to be designed to align with a course or paper’s learning outcomes.

Assessment drives student learning
- How we design and communicate expectations for [both formative and summative] assessment is a key influence on how students learn. (Ramsden 1997)
- The assessment strategy of a particular course or paper has a major impact on student activity and influences their approach to learning e.g. exams with fact-based questions encourages rote or ‘surface’ learning, rather than ‘deep’ and sustainable learning. (Biggs 2003)

Assessment is more than grades
- The intended learning outcomes (the knowledge and skills we want students to acquire and be able to demonstrate), as well as clearly communicated criteria for success, are at the heart of a well-coordinated assessment strategy. (Boud et al 2013)
- Assessment in higher education is neither value-neutral nor culture-free: within its procedures, structures and systems it codifies cultural, disciplinary and individual norms, values and knowledge hierarchies. (Hanesworth 2019)

Assessment should be strategic
- Developing a consistent assessment strategy – with coherence between strategy and practice – is dependent on a clear and widely agreed view of the role and position of assessment in relation to teaching and learning. (Price et al 2010)
- Iterated or scaffolded assessment tasks give students the opportunity to see how assessment criteria are applied by teachers and move towards using those criteria in their own learning. (Morell 2019)

Figure 1 Key premises of assessment drawn from literature

This means that effective design of assessment ensures that course aims or learning outcomes are addressed through the assessment of the course and/or through the assessment of the course’s constituent units of
study or individual papers. The weighting, volume, timing and types of assessment tasks, as well as the clarity of assessment criteria, are important factors in enabling students to demonstrate their achievement of the intended learning outcomes and in maintaining the standards of degree awards.

A clearly planned and communicated assessment strategy is valuable as it facilitates feedback, reflection and dialogue between students and supervisors, as well as amongst the whole course teaching team.

2. Assessment strategies: designing for student learning

When considering your assessment design it is important to recognise what conceptual and strategic approach you are demonstrating through your selection of particular formative or summative tasks. Tasks that occur at the end of year may be useful in providing a target for learning, or an opportunity for assessment of learning. However, we know that students learn in anticipation of assessment tasks as much as they learn from the tasks themselves. Some of this learning occurs from their own realisation of what they can or cannot do, but importantly, they also learn from the helpful comments provided to them by others. The role of assessment for learning, often called formative assessment, needs careful design and planning to ensure that key learning outcomes are addressed and that engagement in the task prompts the kind of learning most desired.

Assessment of learning:
This is how we may traditionally view assessment, where students’ end of paper or year performance allows us to make judgements of their summative achievements. The data produced in the evaluation process is used for certification or progression purposes and acts as a focus for quality assurance and institutional accountability, for instance of the number of first-class degrees awarded. It performs a primarily evaluative function in measuring student achievement. Care needs to be taken so that students are not positioned as passive subjects in the assessment process and so that rote learning is not encouraged by assessment design.

Assessment for learning:
This is formative and diagnostic, providing information about student achievement which allows teaching and learning activities to be adapted in response to the needs of the learner (Sambell et al 2013). If assessment is not 100% weighted towards the end of the paper or year, then a sequence of summative assessment tasks might incrementally provide students with opportunities to build on from the previous task. Assessment for learning performs a developmental function, where the assessment task – whether formative or summative - helps to contribute to how students learn and their skills development. Feedback on students’ progress and performance on assessment is a vital component of assessment for learning.

Assessment as learning:
This is where assessment is embedded in all aspects of a course rather than being something that just happens at the end. It is similar to assessment for learning, in that it actively involves students’ engagement in self-assessment and their active participation in directing their own learning, where students are encouraged to think about the way they learn. It places emphasis on student reflection where they regulate and monitor their learning progress. As well as student reflection, assessment as learning often involves self- and peer-assessment.

Figure 2 Three conceptual approaches to understanding the purpose and role of assessment

The assessment strategy of a particular course or paper will have a major impact on student learning. That is, a well-designed assessment strategy, in tandem with multiple teaching and learning approaches, complements individual students’ different ways of learning by enabling them to experience new techniques.
and develop and practise new skills and qualities. On the other hand, there is evidence of a significant negative ‘backwash effect’ (Biggs 2003) on student learning and achievement from poorly coordinated assessment strategies. That is, students may be encouraged to take a ‘surface’ approach to their learning if the assessment drives them focus on memorisation of knowledge rather than grasping the overall meaning of their studies, so that they “develop limited conceptual understanding of the material and have poor-quality learning outcomes” (Bloxham & Boyd, p. 17). Additionally, opportunities to enhance students’ effort, approach and outcomes can be overlooked when formative assessment practices in supervisions and practicals are not clearly aligned to the assessment expectations, when supervisors and teachers are not encouraged to pay attention to these specific expectations in their feedback and learning activities, or when available data about students’ learning gathered through formative assessment is not shared across the course team.

3. Assessment design strategies

Whole-of-course assessment design

One of the key principles underpinning the UK QAA’s guidance on assessment is that ‘assessment design is approached holistically’ (Principle 3, p.5). That is, a whole-of-course approach should be taken to assessment design, so that it is designed to develop across stages as the student develops, according to levels of study, in light of the overall intended course learning outcomes. The weighting, volume, timing, methods and modes of assessment tasks, as well as the clarity of assessment criteria provided to students and staff, are all important factors in enabling students to demonstrate their achievement of the intended learning outcomes while also maintaining the standard of awards.

![Diagram: Designing a whole-of-course assessment strategy (adapted from Bloxham & Boyd, 2007 p.160)]
The above flow diagram outlines the decision steps to be made when developing or reviewing a whole-of-course assessment strategy.

Importantly, a variety of assessment tasks across a course can help students to develop a range of relevant skills, qualities and understandings, while providing opportunities for students to demonstrate these through the assessment process, without disadvantaging a specific group or individual student.

The course’s teaching and assessment strategies should be designed to work in parallel to progressively enhance students’ understanding of the rationale and purpose of assessment (their ‘assessment literacy’), so that they become more proficient in self-evaluating and self-regulating their own learning and performance. To that end, course teams are strongly encouraged to consider their assessment strategies in light of their overarching course aims and learning outcomes, and then work backwards to map out the opportunities that students are given to develop a range of knowledge, skills and attributes relevant to their discipline (UK QAA Principle 6, p.5).

**Individual paper or module assessment design**

With a well-designed set of course learning outcomes, it becomes easier to plan the design of an assessment task design and to coordinate within individual papers. That is, when learning and teaching activities are designed in alignment with clearly articulated knowledge- and skills-based outcomes, there is an opportunity for students’ understanding and skills to be developed (formative assessment) before or even while their learning is more formally measured and evaluated (summative assessment). The following flow diagram provides a useful reminder of the decisions that need to be made when developing an assessment strategy for a particular paper or module within a course.

---

*Figure 4 Designing a paper or module assessment plan (adapted from Bloxham & Boyd, 2007 p.177)*
4. Components of assessment design to ensure consistency, reliability and validity

Research into assessment acknowledges that providing fairness, consistency and reliability in marking is a significant challenge: it can be difficult to pin down individual academic views on standards and marking inclinations, which are often subjective. This is why so much of the current guidance foregrounds the importance of aligning assessment to intended learning outcomes, so that concerns about validity and reliability are built into the design of the assessment method as well as the marking process.

The following are commonly used tools or components of assessment. In the graphic below, they are presented in the form of an assessment rubric, although they will be conceived of and designed into the overarching assessment strategy well before a rubric will be developed.

![Assessment Rubric Image]

**Figure 5 Components of an assessment (as presented in a rubric)**

**Assessment criteria**

The expectation is that assessments should be judged primarily against a set of criteria, and not relative to other students’ performance. Assessment criteria are helpful in clarifying expected standards and assisting the learner in understanding their strengths and weaknesses. They are more specific to a particular assessment task than the broader and more generic grading descriptors (see below); they might include such things as the quality of the argument, application of a particular theory or skill, accuracy, use of evidence and presentation.

The first Guiding Principle for assessment is that both ‘assessment methods and criteria are aligned to learning outcomes and teaching activities’ (UK QAA p.4). Assessment or marking criteria, just like learning outcomes, should reflect the course and module aims, should use appropriate descriptors and consistent language, and should be developed in accordance with the academic level of study. That is, a first-year assessment task and a final-year assessment task would normally be evaluated by different assessment criteria.

Assessment criteria are particularly useful as they work to identify the aspects of an assessment task that the marker will take into account when making their judgement. To ensure shared understanding of assessment expectations, they should be made available to all students and teaching staff, so that they can be used to inform formative assessment and feedback as well as summative assessment.
Standards:
These are the levels of performance which might be achieved by students against each individual criterion in the marking rubric. Standards might be expressed in a variety of ways, for example by excellent/good/satisfactory/poor or above/meets/below expectations. At Cambridge these are commonly expressed as First, 2.1, 2.2 etc, although this risks conflating standards with classes. It is increasingly recognised that standards can only be achieved through a community of assessment practice (Rust 2014), and that instructions and rubrics need to be contextualized and refined through regular conversation amongst a teaching team.

Grading descriptors:
These are statements of standards to be reached across a range of generic criteria in order to achieve different grades (in Cambridge these are most often expressed as classes). A full set of grade descriptors for a course, Tripos or Department will involve statements of standards across the different levels of degree award. They are often developed and published as a framework to provide greater consistency in marking across different papers or disciplines. However, they should not normally be used as a proxy for assessment or marking criteria, for specific assessment tasks. When used in a rubric these are presented as the short explanations that describe the qualities required to demonstrate achievement of each standard for each criterion. These descriptors should be as specific as possible to the assessment task – if they are too general or vague they might result in misunderstandings by markers and students.

Summative outcome:
This may include a combination of marks and comments by the marker on the overall quality of the student’s performance in the assessment task.

5. The role of assessment rubrics
A rubric is the device with a set of descriptors which provides information on the criteria on which student work will be judged and the standards against which that work will be assessed. Insofar as each task is different, with a range of different criteria to evaluate a student’s work, these rubrics should be unique to each assessment task. They are sometimes also called: marking sheets, marking rubrics, marking guides, scoring schemes, grading guides etc. Moodle uses the term ‘rubric’ to refer to an empty and adaptable template that will eventually form an assessment rubric when filled with criteria, standards and descriptors.

It is basically a marking scheme for an assessment task which combines both the assessment criteria for the specific task with the appropriate standards (for example, from a set of grade descriptors) and provides the detail about how performance in each of the criteria will be graded. It is the view of the UK QAA that clear, public assessment criteria and marking schemes/rubrics are important in ensuring that marking is carried out fairly and consistently across all papers and disciplines.

Although they are not the universal panacea to accurate marking, assessment rubrics do have a number of important benefits by providing:

- a starting point for Faculty and College teaching staff about assessment expectations
- a shared understanding and language to talk about assessment expectations between staff and students
- confidence and guidance to novice markers and help them become part of the assessment community more quickly
- some standardising effect on marking across multiple assessors
• an infrastructure to defend and support marking decisions
• more transparent outcomes about marking for students
• a diagnostic opportunity for students by providing a guide to learning and improving achievement
• a framework to write feedback

Figure 6 Assessment rubrics in the context of learning outcomes, teaching activities and assessment-related resources
Reference list